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Creating Tomorrow's Leaders: Examining Teacher Perceptions of a Systems Approach  
Framework to Continuous Classroom Improvement

By  
Pascale Glenn

A Dissertation Submitted to the  
Gardner-Webb University School of Education  
in Partial Fulfillment of the Requirements  
for the Degree of Doctor of Education

Gardner-Webb University  
2017

## Approval Page

This dissertation was submitted by Pascale Glenn under the direction of the persons listed below. It was submitted to the Gardner-Webb University School of Education and approved in partial fulfillment of the requirements for the degree of Doctor of Education at Gardner-Webb University.

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My beloved aunt Simone Germain (Tatie) would have been so proud of me knowing that I pursued a doctoral degree in education. She was my first educational inspiration; she taught me the value of being diligent and never giving up or wasting time. She often reminded me, "The time you waste will never be recaptured." I dedicate my work to "Tatie" Simone Germain. To my four daughters and grandson, I hope that you always seek God first in any and all of your endeavors.

Last, I would like to thank Dr. Stephen Laws for believing in me and guiding me along to complete this dissertation.

## **Abstract**

Creating Tomorrow's Leaders: Examining Teacher Perceptions of a Systems Approach Framework to Continuous Classroom Improvement. Glenn, Pascale, 2017: Dissertation, Gardner-Webb University, Leaders/Teacher Perceptions/Systems Approach/Continuous Improvement

The purpose of this study was to examine the perception of teachers using a systems approach in two rural schools in a district in North Carolina using a qualitative approach. In this district, a systems approach is also referred to as Continuous Classroom Improvement (CCI). The theoretical framework within which the study was grounded revolved around three constructs. The first construct was school culture; the second construct was the concept of Total Quality Management (TQM); and the third construct was the use of Plan, Do, Study, Act. Information was collected in a natural setting. The qualitative data gathered from the interviews were utilized to find the themes and patterns that were used to describe the perceptions of teachers.

The findings were represented and organized by each research question to answer the overarching purpose which emerged under each research question. The perception of teachers indicated that instructional strategies, reflections, student ownership, and growth played a huge part in setting learning goals in the systems approach.

Resulting from an in-depth analysis of the data, the implications for practice include the continual professional development of teachers in the systems approach to enhance the sustainability of CCI. To avoid compromising the fidelity of implementation of a system approach, continuous coaching and feedback are needed in order to support principals and teachers. School districts benefit from CCI because it supports the ongoing and sustained professional development of teachers for improvement and helps ensure success for students and schools.

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## **Chapter 1: Introduction**

### **Statement of the Problem**

Knowledge and skills are instrumental in promoting what students learn in the classroom. Teachers must have the knowledge to enhance their teaching quality and also have the ability to influence student learning. A system must be in place to support teachers in their professional development (Darling-Hammond, 1997; Darling-Hammond & Bransford, 2007). Although teachers spend time planning together, interacting, and developing a collegial rapport with each other, teachers also bring their values and beliefs into the schools they serve which helps to form the building blocks of a school culture (Barkley, 2010).

Cultural change can be challenging. Within the educational system, each school has its culture and functions in unique ways. In fact, when schools face new ideas for implementation, often these ideas are not readily accepted by individual schools (Fullan, 2007).

To some degree, factors such as local and state mandates and student demographics influence a school's culture. These factors are often the reason for changes to take place in the form of school reform initiatives. Despite these influences, or because of them, many schools or districts are open to embracing new programs (Hamilton, Schwartz, Stecher, & Steele, 2013).

The ever-changing nature of reform initiatives impedes programs from taking root and remaining long term. For this reason, it is important for leaders to have a clear understanding of the depth of an existing culture and to communicate a clear vision, a purpose, and the why for a new reform initiative to be embraced. The key point is teachers value being part of a school-wide decision-making process.



Furthermore, because school improvement team leaders can make a difference in the success of and transitions to new programs, leaders must also be aware of any potentially damaging influence of some staff in preventing the implementation of a new reform. Therefore, to sell a new curriculum, teachers with the most influence in a school should model and promote the reform for credibility and draw any skeptical staff to embrace the new initiative as an educational framework (Gruenert & Whitaker, 2015).

Teachers do not own educational processes; however, seeking their expertise is beneficial in school reform efforts. Teachers can decide what instructional modes are needed and useful for their students. When teachers are not part of a decision-making process regarding reform initiatives, the development of and buy-in for the program may be impeded (Gruenert & Whitaker, 2015; Tyack & Cuban, 1995).

In recent decades, reformers have attempted numerous ways to modify the curriculum and to improve the way schools operate. Reform initiatives are needed because they provide current knowledge of teaching and learning to help shape effective schools (Koonce, 2014).

Change takes time. It is a slow evolution, taking years for a culture to reflect new beliefs. In education, often the focus lies on “what” students should be learning and “how” the content should be taught. The strategy for teaching and learning should focus on the “whom” we are teaching. Chapter 1 contains the purpose of the study (Tanner, 2013).

### **Organization of the Chapter**

This chapter provides the purpose of the study, its significance, the context, a brief description of the methodology, the limitations and delimitations of the study, the

research questions, and the definitions of key terms.

### **Purpose of the Study**

School districts display a sense of urgency to hire effective teachers to provide quality instruction; and most recently, teacher evaluations tie to student growth. As such, school improvement initiatives appear, but often their implementation efforts are poorly managed and result in their failure. Therefore, the adoption and rollout of a program are not enough to produce continuous improvement. The challenges that teachers face today to have students succeed and be lifelong learners requires embedding quality in the education process. Teachers restructure learning through a shared responsibility with students (Siegel & Byrne, 2014).

Public education over the past 25 years has experienced failed transformative efforts because those improvement efforts focused only on outcomes. According to Grayson (2009), an outcome only initiative does not work because it overlooks the process needed to obtain the desired result. Grayson pointed out to improve teacher quality, test scores, and low-performing schools, the process generating these results must also improve. Grayson concluded that in order to improve these processes, educators need to create a process management system by analyzing, measuring, and creating a path to achieve the transformative improvement; linking both process and performance by working together, not in isolation.

Change impacts teachers in many ways. Some embrace the change enthusiastically, while others may feel stressed. Teachers have varying comfort levels stemming from their understanding of how to use an initiative effectively. To lessen the stress teachers face with the new programs, leaders should consider the needs and comfort of teachers by creating support for their learning and their growth development

throughout the implementation process. Leaders can periodically assess the needs, understanding, and knowledge of teachers on the use of the initiative to analyze and evaluate the effectiveness of implementation. Based on the feedback data received, leaders can make adjustments by providing additional support in coaching or provide reinforcement on how the program works. The collection and analysis of the feedback data provide a summary of what is working and not working with the implementation of a new program. The feedback serves as a means to better manage the implementation of a new curriculum (Hall & Hord, 2011; Hall, Hord, George, Stiegelbauer, & Dirksen, 2006; Hawley, 2007; LaTurner & Lewis, 2013).

School reform is a top priority from a social and political standpoint. As an illustration, Lezotte and McKee (2002) emphasized that an educational reform not only focuses on results, but on excellence, fairness, and facts. A Continuous School Improvement Model focuses on results, quality, equity, data, research, collaboration, and self-renewal. To focus on results means how student achievement is measured and how schools are judged through an accountability system. Ultimately, results of student learning drive schools to improve and achieve excellence. Quality is the overall level of student achievement. Equity is how achievement is distributed across various demographics. The idea of fairness is embedded in quality and equity which are critical components of any reform. At the state level, school districts are assessed and graded on the level of student achievement. As a result, to continue improvement, research-based instructional practices are identified to best meet the needs of students. To get the results and achieve excellence, continuous school improvement systems require collaborative work, are ongoing, and incorporate a self-renewing process. Those characteristics focus and define continuous improvement as having an overall focus on excellence (Lezotte &

McKee, 2002).

Continuous improvement has proven successful in the business field, and business organizations have benefitted from continuous improvement long before educational institutions. Some school districts searching for strategies to improve use continuous improvement programs to serve the needs of children better and to improve the quality of education (Darling-Hammond & Bransford, 2007; Fullan, Galluzzo, Morris, & Watson, 1998). In education, the term “continuous improvement” exists and is the subject associated with outcomes written in many schools’ strategic plans. Due to the demands of accountability as a priority at the state and district levels, school systems use continuous improvement as a strategy to increase student achievement by improving knowledge (Grayson, 2009; Park, Hironaka, Carver, & Nordstrum, 2013). Balls, Eury, and King (2011) pointed out “operating in an environment of a learning culture involves fundamental shifts in the management techniques as well as noticeable differences in the roles and responsibilities of all individuals in the learning community, including employees, parents, and students” (p. 38).

A systems approach to school improvement is a continuous improvement model combining systems thinking, principles of Total Quality Management (TQM) and Continuous Classroom Improvement (CCI) as a strategy for teachers to improve classroom learning results. Continuous improvement, CCI, TQM, and system thinking are applied and are used synonymously within a systems approach (Shipley & Wescott, 2014).

Systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static “snapshots.” Systems thinking is a sensibility . . . for the subtle

interconnectedness that gives living systems their unique character. Systems thinking is a discipline for seeing the “structures” that underlie complex situations, and for discerning high from low leverage change. (Senge, 1990, pp. 68-69)

Continuous improvement involves making changes to enhance a service, product, or how an organization functions. It is an ongoing endeavor in which acknowledging a potential problem and preparing for it are major steps in making change and improvement (Pugh & Hickson, 2007; Zmuda, Kuklis, & Kline, 2004).

CCI is considered a plan for producing learning by building a classroom system using best practice strategies. CCI transforms the classroom into a learning system. The classroom as a learning system includes content, instructional strategies, and assessments to produce learning and identify areas within the content or learning process needing improvement. The classroom is considered a system where collaboration exists between the teacher and students. Through the partnership of student and teacher, learning takes place. A focus on results and the opportunity for continuous improvement in the classroom is established. Together, the teacher and the students frequently review the learning goals and the needs of individual students, evaluate the instructional process, build trust, and add value while creating a student-centered learning system. Using CCI provides strategies for learning expectations, engages students as partners in their learning process, and provides an ongoing process for continuous improvement (Shipley & Wescott, 2014).

TQM is an improvement model grounded in system theory management. Systems theory is a set of principles that takes a course of action to benefit an entire organization. Lezotte and McKee (2002) defined an educational system “as a network of

interdependent processes and procedures that work together to accomplish the aim of the system: producing an educated citizen” (p. 25). TQM focuses on producing quality. The expectations of accountability in public education continue to increase. Every Student Succeeds Act (ESSA) is the standards for high quality which includes the laws that govern what is done in schools to increase student achievement and ensure equal opportunities for students to be College and Career Ready. ESSA emphasized the ongoing and sustained professional development of teachers for improvement to ensure success for students and schools (Darling-Hammond et al., 2016).

As a result, school districts continue to seek reform initiatives to meet the requirements of ESSA. Continuous improvement as a reform effort is perceived to address the accountability needs of ESSA (Darling-Hammond et al., 2016; Schumacher, 2011). TQM improves student learning so when they graduate from high school, their foundational academic skills in content are solid. TQM adds value to education through systemic improvements (Siegel & Byrne, 2014).

Within the framework of TQM, CCI evolves from the idea of collaboration between teachers and students in dialogue about improvement on daily classroom activities in all subjects. This process is done through the use of the Plan, Do, Study, Act (PDSA) cycle of improvement. PDSA is a four-step model for ongoing continuous improvement focusing on producing better results and follows a process which includes data, performance, problem solving and transformative improvement. The cycles of PDSA provide collaboration which includes a partnership with the teacher and students to improve the learning process. The components of PDSA are as follows.

1. The Plan is the objective, the short-term focus, or the target for learning.
2. The Do has two parts: a teacher component and a student component. The

teacher component includes the instructional strategies introduced intentionally in the learning cycle to help students achieve the objective. The student component gives them a voice on how they learn best and provides the teacher with the strategies to engage the students so they will learn the objective.

3. Study uses data to determine if the objective was met through formative assessment from the instructional strategies taught based on individual learner outcomes. Students are engaged in studying the results and chart their progress in their individual data notebook. The classroom's overall data are displayed for a class discussion.
4. Act is an adjustment or action plan for the next learning cycle that needs to be done differently. The PDSA cycle of learning is used continuously to refine and improve ongoing learning in the classroom (Deming, 1994; Park et al., 2013).

Continuous improvement, system theory, TQM, and CCI combined form an improvement program or change model. They relate because they use a multidisciplinary approach leading an organization through the cycles of continuous improvement, assessment, and feedback. The combinations of these components form the learning system approach framework. Teachers and students engage in improvement dialogue. Students take responsibility for the quality of their success. The process of student-teacher partnership, making improvements, looking at assessments, and identifying strategies becomes the continuous instructional focus of a systems approach to CCI (Deming, 1994; Lezotte & McKee, 2002; Pugh & Hickson, 2007; Shipley & Wescott, 2014; Siegel & Byrne, 2014; Zmuda et al., 2004).

The purpose of this study was to describe the experience of teachers in three rural schools in North Carolina using the CCI framework. Two schools agreed to participate in the study. This framework includes CCI, PDSA, systems theory, and TQM to improve the quality of education and implement long-term strategies using continuous improvement.

### **Significance of the Study**

According to Hawley (2007), five essential factors describe effective schools: teachers have a knowledge of teaching and learning; teachers share what they understand and commit to achieving excellence; teachers continuously assess what they teach and what students learn; teachers invest in their personal and professional learning; and teachers use resources to support what they teach and to enhance what students learn (p. 1). CCI embraces these essential factors of efficient schools. An education reform for teachers should include knowledge of teaching and sustained professional development so continuous improvement is a part of the school's culture and the framework for operation (Hawley, 2007).

The results of this study may benefit educational institutions that are interested in continuous improvement in order to make necessary adjustments to serve children best at the classroom level. Educators expect programs to bring growth and improvement to schools. Programs can in fact support and benefit schools towards making an improvement; however, what teachers do differently within their classrooms to facilitate learning determine the quality of schools, not the programs they use (Whitaker, 2004).

### **Context of the Study and Methodology**

This study sought to discover the experience of teachers using a systems approach in three rural schools in a district in North Carolina. Eleven teachers from two schools



shared their perceptions with the implementation of CCI in focus groups. The researcher had subjects with various teaching experiences from each school. The study concentrated on the perceived value the CCI framework has on CCI and the experience of teachers concerning the implementation of the framework. In this district, a systems approach is CCI and incorporates the use of PDSA. This was a qualitative study. Creswell (2014) described qualitative research “as a strategy in which the researcher identifies the essence of human experiences about a phenomenon as described by participants in a study” (p. 245).

The setting of the study took place in a rural school system in North Carolina comprised of 53 schools: 30 elementary schools, nine middle schools, 11 high schools, and three specialized schools. There is a total of 42,000 students registered with 2,769 teachers in the education system.

Two schools agreed to participate in this study. The third school declined participation at the request of the principal. School A is a K-5 elementary school with 53 teachers serving 700 students. According to the North Carolina Department of Instruction, for the 2015-2016 school year, the school received an A rating on the states’ performance grading scale but did not meet growth goals. One hundred percent of teachers have a full license; of those, 17 have advanced degrees. Six teachers are National Board certified. Eleven teachers have 0-3 years of teaching experience. Sixteen teachers have 4-10 years of teaching experience, and 25 teachers have 10 years or more of teaching experience.

School B is a K-5 elementary school with 42 teachers serving 662 students. According to the North Carolina Department of Instruction, for the 2015-2016 school year, the school received a B rating on the states’ performance grading scale and

exceeded growth goals. One hundred percent of teachers have a full license, and 13 of those have advanced degrees. Ten teachers are National Board certified. Twenty-six percent have 0-3 years of teaching experience. Five teachers have 4-10 years of teaching experience, and 25 teachers have 10 years or more of teaching experience.

### **Limitations**

The teachers whose schools chose to pilot the systems approach to CCI incorporate the use of PDSA within their curriculum. Where all selected participants received individual training and support by one service provider, each school internally had different levels of implementing the framework to meet the needs of their improvement goals. Of the 10 selected participants, the researcher expected them to have received the same quality of training in the use of the framework. It was understood that each individual teacher in the study had different levels of understanding or interpretations in the use of each component of PDSA. Some may or may not use PDSA with fidelity for that reason.

Due to the methodology of open-ended question format in the research, the participants may not have comfortably disclosed their authentic experiences using the systems approach in an open forum.

A final limitation affecting the success or failure of CCI was the accessibility of monetary resources needed to support continuous training for the development of teachers in the framework. These limitations can serve as a means for further research in determining if the systems approach has a positive impact on student achievement.

### **Delimitations**

All schools in the district were presented with the framework. While some schools did not want to begin a new initiative, the study was limited to two schools and

the views and experiences of 10 preselected participants. Due to time constraints and limited access to study sites, multiple focus group sessions were not feasible for all teachers using the PDSA cycle.

The focus of the study was the experience of teachers within selected schools of a predetermined county in North Carolina currently using the implemented PDSA learning cycles. The selected schools that participated have integrated into one framework where PDSA, systems thinking theory, and TQM fall under CCI.

The information used within the study were gathered via roundtable discussion held in a data room at one site and a book room at another site. The purpose of such locations was to elicit honest responses from the participants through an open-ended questions forum. The open-ended question focus group format used allowed a broader spectrum of conversation from the participants.

Student achievement within the use of PDSA was not focused on; however, the teachers at both schools talked about how knowledgeable students were on tracking their personal growth. The initiative has not been in use long enough to measure and attribute its impact on student achievement.

### **Research Question and Subquestions**

The following question and subquestions guided the study.

How do teachers perceive the implementation of a systems approach to continuous improvement?

1. What are teachers' knowledge, understanding, and perceptions of teaching and learning?
2. What are teachers' knowledge, understanding, and perceptions about a

systems approach to school improvement?

3. How does what teachers know and understand about teaching and learning fit with the meaning they have constructed and their knowledge, understanding, and perceptions about a systems approach to school improvement?

The researcher obtained descriptions of participant experiences through accounts in informal focus group interviews (Moustakas, 1994).

### **Definitions**

The following definitions assist the reader with unknown words used throughout the document.

**Systems.** A network of interdependent components working together to accomplish the aim of the system (Lezotte & McKee, 2002, p. 25).

**Baldrige criteria.** Directed toward results. Their key requirements are to provide value to customers while maximizing and efficacy of the organization (George, 1992).

**Performance excellence.** Helps organizations use a method which manages their performance resulting in improvement (Cokeley, 2006).

**Learning requirements.** Skills students need to know and be able to do as a result of being in class, course, or programs (Cokeley, 2006).

**Learning goals.** A translation of learning requirements into a specific, measurable, aligned, results-focused, time-framed statement of intent (Cokeley, 2006).

**Learning results.** A quantifiable measure representing the current level of performance toward the learning goal typically charted to show progress (Cokeley, 2006).

**Progress monitoring.** A systematic process for assessing and charting progress

toward goals (Cokeley, 2006).

**Mission statement.** A collaboratively developed statement of purpose and commitment to that purpose by the members of the class. A mission is used by both teachers and students to maintain focus and guide decision making (Cokeley, 2006).

**Learning cycle.** A cycle of planning for learning. Doing the plan, studying the results of doing the plan, and acting on what was learned from the study of the results to make improvements in the next cycle of learning (Cokeley, 2006).

**Learning targets.** Short-term learning to align with the class goal (Cokeley, 2006).

**PDSA cycle.** A continuous improvement tool for ensuring the ongoing evaluation and improvement of processes (Cokeley, 2006).

**Learning cycle results.** Contain data which show whether or not the plan for achieving the learning target worked (Cokeley, 2006).

**Leadership and planning.** When teachers clearly communicate specific directions for the classroom and individual students (Cokeley, 2006).

**Data systems.** The teacher and students use data to monitor and report class and individual student progress (Cokeley, 2006).

## **Chapter 1 Summary**

This chapter provided an overview of what the researcher proposed to study. Three schools in a rural setting are piloting a systems approach awaiting its success of implementation before a district-wide mandate. Within the educational system, each school has its culture and functions in unique ways. When schools face new ideas to implement, often they are not readily accepted by individual schools. It could be they are comfortable with their current state of being or they do not see value in changing. It is

important to have a clear understanding of the depth of an existing culture to make necessary adjustments when considering reform initiatives. Teacher knowledge and skills are instrumental in promoting what their students learn in the classroom.

### **Overview of Remaining Chapters**

Chapter 1 served as an introductory chapter which contained the context of the problem, the purpose of the study, the research questions, the definitions of terms, the limitations, and the delimitations of the study. Chapter 2 presents a literature review. Chapter 3 describes the methodology used. Chapter 4 reports the results of the research. Chapter 5 presents a discussion of the findings of conclusions, relates those findings to other research, and presents recommendations for further studies.

## **Chapter 2: Literature Review**

### **Introduction and Conceptual Framework**

The purpose of this study was to examine the experience of teachers using a systems approach in three rural schools in a district in North Carolina. In this district, a systems approach is also referred to as CCI. This research is qualitative. Creswell (2014) described qualitative research “as strategy in which the researcher identifies the essence of human experiences about a phenomenon as described by participants in a study” (p. 245).

The theoretical framework within which the study was grounded revolved around the phenomenon of experience embedded in three constructs. The first construct was school culture; the second construct was the concept of TQM; and the third construct was the use of PDSA. This chapter will focus on a review of the theory and best practices that have been woven into continuous improvement and provide an overview of the use of PDSA learning cycles in CCI. These topics will conceptualize a systems approach to CCI at the classroom level.

Today’s schools focus on results, quality, equity, data, research, collaboration, and ongoing continuous improvement. School reform is a social and political concern that leads today’s schools to approach teaching differently than they have in the past. One goal of continuous improvement is a focus on reaching excellence (Lezotte & McKee, 2002).

### **Defining Culture**

Culture is defined as the integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge

to succeeding generations. It's the customary beliefs, social forms, and material traits of a racial, religious, or social group, the characteristic features of everyday existence shared by people in a place or time. It is the set of shared attitudes, values, goals, and practices that characterize an institution or organization.

(Merriam-Webster, 2003, p. 304)

Culture is how we interact with others based on our experiences. Culture is shaped by what we learn, how we think, the way we interact with others, and how we behave towards them based on our experiences. It is the rules by which we live. We learn our cultures from our surroundings such as our family, where we grew up, with whom we played, our teachers, and social norms (Cornish, 2004; Gruenert & Whitaker, 2015).

### **Establishing School Culture**

Establishing school culture requires certain actions or attitudes that become entrenched within any organization over time. The traditional culture includes an action or attitude of how members behave and how members commonly function. This phenomenon can change based on the development of the organization and the characteristics that have developed as the norm by the members of the organization. These features can be the patterns and interactions between individuals, the language they use, the various rituals, or daily routines of how things are done. The common norms for professionalism shared by staff set a purpose, vision, and commitment to sustaining a culture. Staff engages in rituals to celebrate the success of students and each other which confirms they are a community. They function as a community of learners and engage in conversations about the quality of student work using data to help drive decisions for improvement. We can conclude that establishing culture is an ongoing process that is



unique to each organization (Gruenert & Whitaker, 2015; Morgan, 2006).

Within the educational system, each school has a culture and functions in unique ways. There is relevance in understanding how the phenomena of culture are established in any organization. Within each organization, people jointly create an environment in which they work comfortably. This established comfort creates a great impact on multiple aspects of the function of an organization. New ideas often are not readily accepted. It could be that schools are comfortable with their current state of being and do not see value in changing, or they are not willing to change. It is important to have a clear understanding of an existing culture before proposing new reform initiatives; because once a culture is established, it is sustained by the norm and makes change difficult (Gruenert & Whitaker, 2015; Morgan, 2006).

### **Assessing School Culture**

One fundamental component that is first and foremost in assessing a school culture is to create a productive educational environment where the curriculum aligns with learner needs. High-quality instruction in a school begins with a purpose of what students need to learn. To promote successful learning environments, fundamental components with clear learning intentions must contain modeling examples, guided instruction, collaborative learning, and independent learning. Another way to assess school culture is using the school improvement plan as a tool to be more productive to desired academic outcomes. The school culture embraces assessments with the purpose of keeping student learning central while empowering teachers to continue to make professional decisions in the best interest of students. Learning is acquiring knowledge or skills through a collaborative effort between student and teacher (Fisher & Frey, 2014; Fisher, Frey, & Hite, 2016).

## **Changing School Culture**

Changing a school culture takes time. It requires changing people behaviors and persuading them to act in new ways. The starting point for cultural change requires developing the collective capacity of staff. Cultural change involves the ability to respond to various dispositions while concurrently building skills and knowledge. The common problem noted stems from a succession of cyclical efforts and a search for effective solutions to improve learning (Gruenert & Whitaker, 2015).

Cultural change provides valuable insight into the capacity of a system to engage in the complexities of continuous improvement. The impact of cultural change is significant because it emphasizes understanding and identification of primary characteristics that are inherent in enhancing the effectiveness of the individual schools. School culture, therefore, is at the heart of educational reform (Anderson, Daltta, Dyck, Kayira, & McVittie, 2016; Eaker & Keating, 2008; Fullan, 2005; Waldron & McLeskey, 2010).

Teachers will implement programs from which they have a buy in. To sustain a learned skill, to provide service with purpose, and to commit to investing in the development of teachers transform the entire context within which people work (Fullan, 2005).

When collaboration is part of change efforts, trust and satisfaction among staff develop. A collaborative culture and comprehensive school reform add value to school culture. Shared values and commitment are essential tools for strengthening school culture. To experience a system-wide cultural change in education is complex. One challenge in shifting culture is trying to make people change the way they always do things. An entire faculty must be engaged in a collaborative process and be able to

articulate the school's core values or collective commitment to change the school culture. The wheel does not have to be reinvented, the wheel needs to be adaptable to the existing culture (Fullan, 2005; Gibbs, 2006; Gruenert & Whitaker, 2015; O'Keefe & White, 2006; Waldron & McLesksy, 2010).

The reoccurring problem with reform initiatives is that they come and they go very quickly. Due to its ever-changing nature, it is a persistent challenge in educational systems to make reform initiatives successful systemically and for them to last long term. The revolving change in reform impedes permanency in programs but reinforces the purpose of continuous improvement by structuring the time for staff to meet and discuss current educational practices. Professional learning communities (PLCs) transform and shape school culture. One way to assess culture is to establish a baseline on how the school functions as a PLC. The concept of culture has little impact on schools unless it is embedded into the day-to-day school's function. Shared values and commitment are not the only dominant tools for shaping and assessing school culture. School culture can easily be evaluated using visible artifacts. We can observe the physical layout of a school. We can see a dress code. We can observe the interactions of staff in PLCs. We can measure a school's academic performance and see its growth pattern historically. Many unwritten rules and honor codes are understood by school staff to form the value system and emotional intensity of schools. Another phenomenon such as teacher working condition survey provides great insight on the need or satisfaction of staff. Although shared values and vision reflect group norms and often guide decisions for schools, they are harder to assess because of different ideologies that can be inferred among faculty. The development of shared values, however, can lead to traditional norms which are embedded in school culture (Huffman & Hipp, 2003; Spencer-Oatey &

Franklin, 2012).

PLCs focus on finding strategies that work for all students. There is a sense of collaborative work to achieve this goal of finding strategies that work for all students through examining results of student learning. Reflecting on results assists in gauging where improvement needs to occur. PLCs whose focus is specifically on student data strategize on appropriate interventions to address student needs and find the root causes which impede learning. Indicators of progress are documented as a means to continue to differentiate and address various levels of interests and learning styles (Eaker & Keating, 2008; Hawley, 2007; Tomlinson & Moon, 2013; York-Barr, Sommers, Ghere, & Montie, 2006).

### **Sustaining Culture**

Cultural change impacts continuous improvement through professional development, establishing capacity among staff, and by ensuring sustainability of the reform initiative. Educators must be prepared to maintain a transformative program with knowledge and skills. If teachers lack the skills and needed support to carry out an initiative, the collective capacity to give root to the initiative will not be sustained (Fullan 2005; Waldron & McLeskey, 2010). To implement a new program in a school means to amend the context within which people work, share values, and commit to a school's culture. A challenge in shifting school culture means changing people's behavior and persuading them to do things differently. Trust and documented success have to be established for a system to commit to a longer term system-wide change (Fullan, 2005).

To sustain culture, the action and attitude of individual people are entrenched into the essence of the organization to which they belong. Therefore, getting members to adopt a common model as a survival mechanism and using this framework for solving

problems is an investment in changing the context within which teachers work. Teachers play an essential role in sustaining a culture, but they need the support of leadership (Fullan, 2005).

Cultural change provides valuable insight into sustainability as the capacity of a system to engage in the complexities for continuous improvement. Sustainability is described as cyclical, because it is required for the next adaptive breakthrough in education. The conditions for sustainable change are varied, complex, and diverse. Understanding culture in these terms offers an entry point into thinking about sustainability in education as creating new cultural norms (Anderson et al., 2016; Fullan 2005; Waldron & McLeskey, 2010).

The improvement cycle of a school involves support, resources, and self-evaluation for accountability. Through a system of responsibility, deep learning at the school level involves shared efforts towards the development of a collaborative culture. In other words, school systems need to learn how to continuously adjust, revise, abandon, and expand strategies, according to their efficacy to sustain continuous improvement. Short-term and long-term results are necessary to build trust for longer term investments. The fundamental elements of sustainability are time, ingenuity, and leadership as the primary engine. If the ultimate test of an educational intervention is sustainability, the wheel needs to be adaptable to a changing and real-world environment. To sustain culture, schools need to be designed to not depend on stability alone, but rather by adapting to change (Fullan 2005; Gibbs, 2006; O’Keefe & White, 2006).

An adequate understanding of the concept of sustainability is essential towards initiating, participating, and advocating for appropriate sustainable behavior. The viability of culture requires preparing educators with the knowledge and skills to

implement a sustainable curriculum. Situating teacher education for sustainability is an ideal intervention for transformative change. Education scholars have noted that one of the greatest pressures facing teachers is the emphasis on achieving high standardized test scores. As a result of this pressure, a barrier to implementing pedagogical approaches which emphasize factual knowledge exists. A district that wishes to increase student test scores should focus its curriculum on test-taking skills, content specific expertise, and procedural knowledge. Teachers need support to maintain sustainability. A lack of support in training often leaves educators feeling isolated in their efforts to engage schools and classrooms in sustaining any initiative (Bantanur, Mukherjee, & Shankar, 2015; Fullan, 2005; Redman, 2013).

### **Professional Development**

The continual professional development of teachers is crucial to the success and sustainability of school culture. The complexity of continuous improvement emphasizes that we must understand the key characteristics at the heart of educational reform to maintain sustainability. A starting point that is theoretical and practical is to build capacity by developing the knowledge of teachers (Fullan, 2005).

An important attribute in sustaining a culture which plays a significant role in the work environment is the emphasis on the professional development of teachers. The behavior and engagement of staff are crucial to achieving sustainable continuous improvement in the future. Within the organization, the attitude and capabilities of staff to function at all levels will help sustain the professional development culture in the future. All elements to build a sustainable culture including policies and procedures are examined to eliminate what may stifle progress. A strategy for sustainability is working to develop the capabilities of team members to self-manage the organization at all levels

(Grosemans, Boon, Verclairen, Dochy, & Kyndt, 2015; Weatherford, 2010).

The starting point for positive change is through the capacity building of others which involves developing collective ability, dispositions, skills, knowledge, motivation, and resources of teachers. Many teachers, at times, lack the necessary skills and need additional support. To improve the quality of learning and to raise the bar and close the gap of student learning is considered providing service with a moral purpose. The transformation of educational institutions requires not only the commitment to changing the context within which people work but also provide the opportunity for ongoing, meaningful exchange designed to foster, develop, and disseminate innovative practices that work.

### **Related Study**

As stated earlier in this chapter, to sustain culture, the action and attitude of individual people are entrenched into the essence of the organization to which they belong (Fullan, 2005). In a study conducted by Weatherford (2010), four public charter schools in Los Angeles participated in research on the development of positive cultures within their organizations. The study focused on how public charter school leaders and staff used and analyzed the information that emerged from surveys and interviews as a guide to sustaining a school culture and assist future public charter schools to continue developing and maintaining their culture (Weatherford, 2010).

The findings of the study are based on the experience of administrators and teachers from four public charter schools who agreed to participate in the study. The results of the survey determined the present level of school culture in the chosen schools based on the questionnaires administered to all principals and teachers at each site. The questionnaire specifically touched on three areas of the traditional culture at each school:

shared vision and mission; regular use of rituals, symbols, or ceremonies to celebrate staff and student success; and staff functioning as a community of learners. The researcher used a Likert-like scale to gather responses from participants and compared the responses between schools. The researcher then conducted individual interviews with each principal and used a focus group consisting of five to seven teachers selected at the four schools. The researcher focused on trends and correlations that emerged from the data collected by identifying what the leaders did to help create and sustain positive cultures at their school. Also, the researcher analyzed the best practice trends incorporated at the schools with positive cultures. Using this information, the researcher developed a “culture creation” template, a list of best practices for creating and sustaining positive school culture for the benefit of new public charters and school leaders to follow (Weatherford, 2010).

Documentation to support a sustainable culture was gathered by the researcher to provide insight for each subcategory of culture at each school site. The data collected represented the trends and opinions of staff and principals of individual schools as they pertained to each subcategory relevant to each school. The study of the views and beliefs of the participants revealed through descriptive analysis from the interviews and focus groups an understanding of what led to the development and establishment of each school’s culture. The subcategories included school vision, mission, and core values which reflected the fundamental values of staff. Teachers and principals identified what they believed created and sustained a positive culture at their schools. The three essential contributors identified in the study were the hiring process, the ability to use unexpected events to forge bonds, and the importance of recognizing staff success through celebrations (Weatherford, 2010).



Weatherford's (2010) study pointed out the hiring process is thoughtful and intentional and addressed key areas which create and sustain positive cultures. Principals emphasize strong work ethic and informing all potential candidates of their expectations. The study revealed the recruitment process of teachers benefited the organization by intentionally hiring teachers who shared the core values and a commitment to the vision of the organization. The expectation of hard work became the norm in the recruitment culture and the hiring process for those four schools. The interview questions posed were designed to reflect the schools' specific values to help select the best candidate to hire (Weatherford, 2010).

Weatherford's (2010) study revealed that what helped one school forge strong bonds was the sharing of various events in the lives of individual staff members. Participants from another school identified having in common ethical beliefs and believing strongly in the potential of students as a mutual foundation for unifying the staff. Another school bonded through experiencing adversity. They also noted that they shared working space with a regular public school while their facility was being built. Principals utilized team building activities to create and sustain the vision, mission, and core values of the schools. Principals recognized the importance of celebrating teacher and student success through the use of rituals. The results of the survey, however, showed this is an area where they can improve. Principals carved out collaboration time for staff which helped build trust in their principals and each other. Principals gave teachers autonomy in decision making and the use of curriculum (Weatherford, 2010).

The study by Weatherford (2010) illustrated how four public school charters established and sustained their founding culture. School leaders provide the support to create the connection between positive cultures, school success, and student achievement

(Eaker & Keating, 2012; Fullan, 2004; Huffman & Hipp, 2003; Kanold, 2011; Weatherford, 2010; York-Barr et al., 2006).

### **Summary of School Culture**

A school culture that values learning and continuous improvement promotes learning. All schools have their own culture. A positive school culture impacts teachers and students. Ultimately, a positive school culture helps to create a productive educational environment where the curriculum aligns with learner needs.

### **The Concept of TQM**

TQM began in business as a quality measuring management system. TQM serves as a working tool for managing performance that results in improving the educational quality of students through the use of researched-based best practices. TQM promotes professionalism and focuses on customer satisfaction. In the context of teaching, TQM helps to improve the quality of service teachers provide to students by creating goals and objectives for academic improvement (Cokeley, 2006; Rosalin, 2013).

TQM was established to improve organizations and serve as a system to help evaluate the quality of service to consumers (Belohlav, Cook, & Heiser, 2004; George, 1992). Considering TQM follows a framework to manage the performance of organizations and its management, in the context of education, TQM provides a guide for determining areas for improvement through the results of student performance and pedagogical best practices. TQM in education is intended to improve the educational value for students and to help contribute to the quality of instruction. TQM seeks to provide organizational stability as well as improve the effectiveness of personal learning designed to deliver a way to sustain high performance in many organizational settings (Cokeley 2006; Rosalin, 2013).

In the context of teaching, the client or customer is the student. TQM focuses on the needs of its customer and heavily relies on an outcome of excellence. The management of TQM operates under the assumption that everyone manages his or her responsibilities with a continual focus on improvement. TQM focuses on the needs of students, the why of a rigorous curriculum, and the need for assessment while keeping up with the ever-changing demands of education. TQM includes differentiating instruction for students and engaging their interest in learning. TQM makes use of formative assessments to measure the learning experiences of individual students and measures what students know and are able to do through summative assessments. A key characteristic of TQM is monitoring progress to see where gaps exist and apply essential strategies to promote the learning and achievement of students (Cokeley, 2006; Rosalin, 2013).

The strategic plan of TQM addresses how the organization functions and how individuals carry out their responsibilities. Strategic planning addresses how an organization develops its objectives and identifies key performance measures as action steps. The action steps are fundamental in developing, reviewing, refining, or reaffirming the mission of an organization. TQM focuses on the consumer and the key factors that lead to their loyalty and overall satisfaction. TQM examines the way organizations evaluate their performance in growth and quality and ensures that employees receive support in their professional growth. These values combined serve as quality control to address the total management system of an organization (Belohlav et al., 2004; Ruben, 2014).

CCI is a component of a systems approach to improving results for students in the classroom. CCI connects to TQM through an aligned system of improvement (Shipley,

2012). A system is a group of interdependent elements that form a related group or a whole. The interdependent elements help set a clear direction for the classroom as a learning system. In a classroom learning system, students and teachers form a partnership of what students should be able to do based on state standards for learning. The school is the system that operates towards the common purpose of educating all students in a safe and orderly environment. The conceptual framework which aligns CCI and TQM consists of core beliefs and shared practices embedded in the school's culture applied in systems thinking. A regular examination of core beliefs and learning patterns requires periodic review of the core beliefs. A focal point of TQM includes sharing of best practices in any instructional system. Instructional systems include the framework for what effective teachers do to promote student learning (Senge, Kleiner, Roberts, Ross, & Smith, 1994; Zmuda et al., 2004).

### **Related Study**

In a study conducted by Hoy (2007), seven elementary teachers in a rural district in a southwestern state described their experience with implementing a district-wide system approach to school improvement. The study focused on a model used in the study which combined systems thinking theory, the Baldrige framework, and some aspects of the TQM philosophy. The study used the term “system approach to school improvement” as the reform to change model employed by the district. Several schools in this district were designated as schools in need of improvement. Student achievement and meeting adequate yearly progress (AYP) was a priority for the district. All schools with that designation implemented a school improvement model grounded in systems thinking theory referred to as systems approach, Baldrige, or TQM. Leadership set the vision and mission of an organization. Therefore, continuous improvement needs the

support of leadership (Hoy, 2007).

Hoy (2007) explained that Baldrige is a term from the Baldrige Criteria which provides the basis for organizational assessment and feedback which lead organizations through cycles of continuous improvement. The systems approach model engaged teachers and students in daily improvement dialogue to meet the district's AYP expectations. None of the 34 schools identified in the study from this district made AYP in the 2005-2006 school year. The study showed that in 2006-2007, two schools made AYP by changing their vision and mission focus. The district had a mission; the schools created a mission in each classroom. Next, they set measurable goals looking at current data and deciding on how they would want to grow. Setting goals and using data are two essential best practices of TQM and Baldrige in continuous improvement processes in education. Many forms of assessments were used to measure progress. Quarterly short cycles of learning showed the mastery of students on targeted standards (Hoy, 2007).

Hoy (2007) described a classroom as an open system within a school, and the school is part of the district. A classroom as an open system fosters interactions with students and teachers. The work that takes place in the classroom is considered the classroom process. The school as a system includes the principal, the teachers, the students, and all other relevant personnel who are responsible for the operation of the school. Within a system, there is a process which provides a continuum for structure. The systems approach is built on the idea that the classroom should continually expand the knowledge of students. The layers within systems are interconnected and provide support to one another (Hoy, 2007).

In a focus group format, the teachers provided an overview of the physical arrangement of their classroom which consisted of a grouping set up. This general

arrangement supported the practice of cooperative learning. All classrooms had similar physical characteristics and included visual learning tools such as word walls. The study showed evidence of traditional beliefs about teaching and learning. Teachers described their role as the giver of knowledge and identified strategies of collaborative learning, repetition, and practice as essentials for students to be successful learners. Providing a platform for students to have input in their learning was highly emphasized. Teachers built on student prior knowledge and identified themselves as the facilitators of information. Although all teachers described their classroom as busy, three teachers emphasized structure as an essential element for success. The consensus among the teachers was to create the deliberate physical arrangement of the classroom to provide students a way to engage in discussions with their peers (Hoy, 2007).

The participants were asked to describe a lesson that went well for the students. A participant shared how technology and animation were incorporated into the lessons to make learning fun for the students and for teaching to come alive. Overall, the participants described hands-on lessons. Hoy (2007) pointed out that instructional strategies are essential components of the systems approach that promotes student-centered classrooms. A plan for student success known as an Educational Plan for Student Success (EPSS) was used in the schools in Hoy's study. EPSS was a mandate by the state in which the study was conducted for the continuous improvement strategic plan. The EPSS plan provided strategies and supporting resources in reading, mathematics, oral language development, and system approach implementation to help students meet AYP. All strategies written in the schools' EPSS were implemented in the classrooms to help improve student achievement in the specific areas of focus (Hoy 2007).

### **Teachers' Beliefs on Teaching and Learning**

Hoy (2007) suggested that implementing a systems approach as a reform model was a means to improve student achievement. The findings indicate that teaching and learning form a cooperative process in the system approach in the classroom. The teachers directed the learning by providing the essential skills that were expected to be mastered by the students. Teachers and students strategized to find ways to master the objectives. Together, teachers and students tracked and monitored the achievement data to see continuous progress over time. This method gradually led students to take responsibility for their learning. The teachers in the study described their role as givers of knowledge. Teachers also stressed the importance of providing repetition and practice for students to experience success. Teachers identified collaborative learning as a process which gives an atmosphere for students to interact and also provides a forum for input in their learning. Also, because the teachers firmly believed that they served as facilitators, they capitalized on student prior knowledge to help transfer the new concepts. When teachers described the physical setup of their classroom, it entailed a grouping format which supported cooperating learning. Teachers used visuals as learning tools and word walls and celebrated student work continuously. Three teachers felt that structure was an essential element to the success of their students (Hoy, 2007).

When teachers were asked to describe a lesson that went well for them and their students, teachers explained how technology and animation were incorporated into the lessons. The teachers enjoyed using technology because the lesson was more exciting and became alive for them. The teachers became excited about teaching and the learning that took place in the classroom. Most participants described lessons that were hands-on and engaged the students in the learning process. Hoy's (2007) study emphasized a

learning/student-centered classroom where the teacher implements strategies with student participation. Teachers in this study were willing to try new ideas to help all students meet AYP (Hoy, 2007).

Several of the participants worked in schools that implemented the Success for All (SFA) model. Four teachers identified seven strategies as key components in helping students experience success in the classrooms that followed the SFA model: cooperative learning, modeling, oral communication, whole group and individual instruction, hands-on learning, repetition and practice, and word walls (Hoy, 2007).

### **Cooperative Learning Strategy**

The use of grouping was heavily utilized in a cooperative learning classroom. The groups were heterogeneous, and activities varied for teams to complete an assignment. Students reported to their SFA groupings based on their academic needs and had to learn from each other. A teacher described that after his students received the knowledge from him, his students had roles in their peer tutor cooperative groups. Hoy (2007) pointed out that the students had dual roles, learning from the classroom teacher as learner and transferring that knowledge to their peers through cooperative learning. This skill taught to the students transferred in all academic areas (Hoy, 2007).

In a qualitative research study conducted by López Hurtado and Viáfara González (2007), an exploration of cooperative learning was done with a group of English teachers who created a learning environment condition in their classes. They emphasized that cooperative learning is very common as an instructional strategy in language learning settings. According to López Hurtado and Viáfara González, what makes cooperative learning a challenge for educators is when students work without structure. López Hurtado and Viáfara González referred to Piaget and Vygotsky who believed that people



learned better through interactions. Twenty-one teachers were asked to focus on three parts of this experiment. The first part was to contextualize the experiment in duration, grade, group size, and objective of the activity. Next, teachers showed how their lesson was organized with the various stages of the activity they provided to their students in a narrative format. Last, teachers provided a description of what they observed their students doing during the implementation of the cooperative activity (López Hurtado & Viáfara González, 2007).

The results of the data analysis were presented in percentage form and showed the language-learning activities developed by the students. Those results were divided into several categories: the type of courses students took, the kinds of activities the students completed, and the organizational criteria the teachers established for the group. The distribution of cooperative activities per course included project work, reading, writing, speaking activities, vocabulary learning, reading Spanish classes, listening, and small groups. The participants implemented the approach for 2 months. Teachers described themselves as “mediators” in the process. Teachers assigned leader roles, a material monitor, a designer, and a reading monitor. The students initially showed verbal aggression towards each other because they were being forced to do what the leader asked. At this point, the teachers described themselves as “conciliator.” To facilitate cooperation, teachers had to be flexible in their roles. Teachers stressed the importance of how the transfer of authority and of power is perceived so they would not be seen as the only ones to guide communication. The teachers felt that when they transferred the power to the students, this communicated to the students that they too had the knowledge they could share with their classmates which gave her students a leadership role. Teachers shared that when they mediated to allow a cooperative group activity to be

successful, this helped students produce quality work which yielded praise. The participants also shared that initially, they were fearful of the noise created by the groups; over time, they became more confident that their students were productive. Teachers observed how able the students were in transferring information to one another in simple terms. Teachers reported that the classroom set up played an important factor in the success of the cooperative learning, particularly with mixed ability groups. The teachers incorporated project work and task-based learning along with cooperative learning (López Hurtado & Viáfara González, 2007).

### **Modeling Strategy**

Through modeling, teachers demonstrated the expected outcome for all activities. Once students learned through teacher modeling, the students became an asset in a cooperative team to model for their peers. The teachers believed that when the students reached the point of teaching their peers, they showed mastery (Hoy, 2007).

Frey and Fisher (2010) conducted an observation on scaffolding student understanding and modeling when learners continued to struggle. The pattern that emerged as part of guided instruction was that teachers checked for understanding. When a lack of understanding from several questioning techniques failed, the teachers modeled their thinking so the students could have a frame of reference as to the thinking process they needed to use to solve a problem (Frey & Fisher, 2010).

Eighteen teachers from an urban district who demonstrated success with student achievement participated in a study conducted by Frey and Fisher (2010.) The teachers selected had great results working with diverse students. Specific data were collected over a 9-week period of observing the teachers at least three times. Those observations took place during guided reading. The district used balanced literacy as their curriculum

framework and the Gradual Release of Responsibility (GRR) model. Fisher and Frey (2014) referred to the framework of GRR as recursive because the instructor can assume responsibility as many times as necessary during the lesson to solidify the proper model of thinking for students. The instructional framework of GRR shifts the focus of instruction in two phases: teacher responsibility and student responsibility; meaning the teacher begins in control and assumes the responsibility of the instruction, then gradually phases the learning so the students are responsible for their learning (Fisher & Frey, 2014; Piaget, 1952; Vygotsky, 1962, 1978).

The result from the data analysis revealed four strategies used by the teachers to ensure student understanding: a questioning technique for understanding, a prompting technique, a cueing technique, and a modeling technique (Frey & Fisher, 2010).

The questioning to check for the understanding of students was used during guided instruction. According to Frey and Fisher (2010), the questioning for understanding technique serves to assist teachers in determining if previously taught materials had been retained. The response provided by students indicate to teachers what a student knows or does not know. The prompting, cueing techniques are used to help students through their thinking process to achieve a level of understanding. In the cueing process, the teacher shifts learner attention to a specific aspect of the lesson and what needs to be noticed in the instruction especially when pointing out an error students need to avoid. Frey and Fisher emphasized that modeling techniques occurred as an additional scaffold when the previously mentioned techniques failed to produce understanding for the learner. Frey and Fisher observed that teachers resume control of the thinking process through direct modeling to demonstrate to students how the task could be completed to produce evidence of learning (Frey & Fisher, 2010).

The structure of GRR shows the responsibility of the teacher and students. The teacher's responsibility is focused on instruction, "I do it," meaning the teacher models and demonstrates what needs to occur while the students look on. When establishing a lesson purpose in reading or writing, for example, the instructor provides to students varied strategies good readers or writers use as they think through a process. The teacher provides detailed explanations by modeling think-aloud techniques required to solve a problem. The focus on instruction provides a model from which students can work (Fisher & Frey, 2014).

### **Oral Communication Strategy**

Hoy's (2007) study pointed out that teachers described oral communication as a strategy to improve effective communication. Teachers felt that communication helped to convey understanding and engaged students in a meaningful discussion on any topic. Teachers shared that the relevance of communication was more evident during reflection time at the end of class. Teachers did a quick check for understanding. Teachers emphasized the importance of communication to facilitate discussion and believed it served as a prerequisite for students to use the modeling strategy with their peers (Hoy, 2007).

In a case study, Maneen (2016) examined the perception of teachers in a charter school on arts integration practices on the development of student achievement in critical thinking, creativity, communication, and collaboration. Maneen referred to those practices as the 4 Cs. The charter school located in the mountain region of North Carolina uses an experiential learning approach and offers an integrated curriculum which focuses on visual and performing arts. Nine teachers participated in a study that expressed the views of the teachers regarding the 4 Cs. Teachers felt that to be prepared

for the 21st century, children must be given the opportunity to see how subjects are connected to ideas. Through these ideas, students use the 4 Cs. The data showed strength in the following group project, student analysis, student choice, and student expression about the 4 Cs. The participants indicated group work as a strategy to facilitate the 4 Cs. Group work generates conversation. Maneen pointed out that teachers expressed that learning takes place even if there is a breakdown in communication. Teachers and students continue to have an ongoing dialogue. Teachers stressed to students the importance of having excellent communication skills as the basis to get along with people and convey clear ideas (Maneen, 2016).

### **Individual and Whole Group Instruction Strategy**

Teachers provided interventions in small groups to those who needed additional support using mini-lessons, direct instructions, and reteaching not yet mastered skills. With the help of their teacher assistants, the teachers shared that individual students were pulled out to receive one-on-one support on objectives not mastered using the same method employed by the teachers. Individual and whole group instruction happened consistently through a rotation process varying the groups. This strategy provided the teachers with another means to assess learning as the EPSS dictated (Hoy, 2007).

A case study by Smith (2015) addressed the impact of implementing an intervention reading program to prevent struggling learners from falling further behind in the formation grades of elementary education. Smith emphasized early intervention using differentiated instruction as having a great impact on struggling readers. Additionally, the data in the study showed evidence that when students received direct instruction, their academic performance increased. Small class size and small group instruction allowed for teacher collaboration and facilitated individualized instruction.

Students' beginning assessment showed a significant increase in achievement when compared to the end-of-year assessment. The teachers saw positive academic growth in students. A teacher credited the set up of her classroom as allowing her to know her students better and thus meeting their individual academic needs. The individualized instruction students received made them more academically. The teacher saw an increase in confidence and an interest in school and overall more motivation to learn. When the students saw their growth, they were proud of their accomplishments and that of their classmates. As a result, students regularly monitored their progress. The teacher assistant who worked with the teachers noticed that at the beginning of the year the students were reluctant to read in front to their peers, adults, or a crowd. As the students gained confidence in reading, the fear disappeared. Multiple grade levels noticed growth, and increased self-confidence was noted by staff after the intensive intervention was provided to struggling readers. Each grade level formed a support group composed of struggling readers and those who achieved success as a means to keep each other encouraged. The interventionist noticed that students responded well to praise. The difference was noted in comparison to traditional classes and the classes using the intervention. Students who were in the intervention class benefited from small group instruction with a teacher, a teacher assistant, and a reading specialist to provide direct instruction to students using a rotation system. The intervention classes saw growth in students when compared to the classes who did not offer the small group interventions in first and second grades according to the DIBELS data. Additionally, Smith's study, asserted that one of the contributing factors to the success of the small group interventions was the use of the GATE program which builds upon phonemic awareness, reading fluency, phonics skills, and tricky word recognition. This program was utilized

with low-performing students in each small group in the intervention class settings (Smith, 2015).

### **Hands-On Learning Strategy**

Three teachers in the study identified hands-on learning as an important differentiating learning strategy. One teacher made use of pictures to help her students in creating a story using picture sequences. The first teacher shared that the students enjoyed telling what was happening in each picture which helped them learn to tell a story in proper sequence. The second teacher used a mapping activity after a few unsuccessful paper and pencil worksheets. The students instantly became more engaged when they had to cut, use play dough, and used grids to cut the states. Other manipulatives such as candy were used to identify the capitals after the project was put together. The teacher used a teaching rubric to help students with the specific criteria they needed to include on the map. The teachers shared that the students deepened their learning because they were able to construct, verbalize, and use their creativity in the project. A third teacher shared how the class was divided into groups to work on building a bridge project using toothpicks. Each student was assigned a role in each group. The roles stemmed from project director to carpenter. Each person had a function. They used money and checks to complete any transactions to carry out the project. This project incorporated financial literacy, reading, collaboration, math, and discussion. The quality of the bridge and the evidence of what was left on the balance sheet was the deciding factor to deem the project quality. The results of this activity suggest that the teachers believed that hands-on learning activities engaged students in learning (Hoy, 2007).

Howell (2013) conducted a study using a 4 MAT learning cycle because this

model is a research-based model. The study compared two instructional models of science delivery used in two honors physical science classes. According to Howell, a 4 MAT learning cycle is a four-step cycle of learning that begins with engaging the student and moving them toward reflective observation. The study compared a lecture-type style in a traditional classroom setting and a lecture-type classroom in an inverted model; both studies were conducted in a physical science class. One classroom was described as traditional and consisted of lecture-type activities done in class with homework as a review done at home. The other classroom, described as inverted or flipped, also consisted of lecture-type activities. What differentiated the second classroom to the first was the fact that these activities took place outside the classroom, and the homework component took place in class. The results of the study included the views of parents, students, and instructors. The data helped the researcher formulate a comparison between a flipped setting versus a traditional setting. A pre and posttest to analyze the academic difference between the two classes were administered. Howell's findings showed six categories that are crucial to consider before experiencing the effects of a flipping style classroom: accountability, accessibility, technical, comprehension, pedagogy, and preference. Howell suggested having a plan on how to hold students accountable for viewing videos at home. Next, the technology must be accessible and up to date to allow all students to see the videos selected. While students are watching the videos, provide them with supporting materials to facilitate their comprehension during and after viewing the videos. The research emphasized the importance of selecting a pedagogical delivery style that will engage and be most relevant to students. Finally, the underlying considerations form the reason for preferring the flip method (Howell, 2013).



**Repetition and Practice Strategy**

Teachers believed that repeating and practicing skills especially connected to reading was essential to the success of students in the classroom. Hoy (2007) noted teachers were able to detect areas in which students had difficulties in reading and provide the appropriate intervention.

Shany and Biemiller (2010) reexamined a previous study they conducted in 1995 to see if assisted reading practice had any effect on reading comprehension. Shany and Biemiller's study concluded that repetition and practice strategies in reading are intervention methods designed for improving reading. Repetition and practice are intended to increase word recognition, fluency, and comprehension. The study further pointed out after studying the characteristics of at-risk children and those who learned normally that they were able to distinguish who profited more from intervention programs. The study showed and identified the many children who were not successful with interventions demonstrated deficits in phonological awareness, encoding, low verbal ability, behavior problems, and developmental delays. The research indicated that the problem started in kindergarten. In following those children, this prompted additional intervention when they reached first grade. Those who received and responded to early interventions reached the desired targeted achievement percentile on the reading measurement. Shany and Biemiller suggested that early intervention prevents long-term reading difficulties for at-risk children.

**Word Walls Strategy**

Hoy (2007) defined word walls as a strategy used in the classroom to build vocabulary. Three teachers described their classrooms as having many visuals on the walls. The word walls were used in three subject areas: math, language arts, and reading.

Teachers shared that they used the word walls whole group or small group. The words walls became useful when students referenced them in selecting words in context for discussions, writing across the curriculum, and building vocabulary fluency (Hoy, 2007).

Using word walls is one way to showcase vocabulary words that are related to a current topic. Frequent usage of word walls with specific subjects helps anchor words in long-term memories for learners. Students use word walls to build knowledge of different subjects taught as a strategy for supporting the instructional program. Word walls are developed by teachers to meet the needs of students. Teachers refer to the word wall often during instructional activities. Hooper and Harmon (2015) stated that in science class, word walls are effective instructional tools. They emphasized that the continual exposure to keywords helps students develop a deeper understanding of science concepts (Dykes & Thomas, 2010; Hooper & Harmon, 2015).

### **Summary of the Concept of TQM**

While Merriam-Webster online dictionary defines strategy as a careful plan or method for achieving a particular goal usually over an extended period, the teachers in the study were asked to describe a lesson that went well. Most teachers discussed strategies that involved and engaged students in learning (Hoy, 2007). As stated earlier, TQM focuses on the needs of students, the why of a rigorous curriculum, differentiating instruction for students, and engaging their interest in learning. Teachers in this study measured the learning experiences of individual students and measured what students knew and were able to do using multiple strategies. This study showed that consistently monitoring progress to see where gaps exist and applying essential strategies promoted the learning and achievement of students in the SFA model schools.

A focal point of TQM includes sharing of best practices in any instructional

system. Instructional systems include the framework for what effective teachers do to promote student learning. GRR allows the following instruction model where the teacher gradually releases the responsibility for learning to students who assume all of the responsibility for their learning. Differentiating instruction is the strategy a teacher uses to respond to learner needs. Response to Intervention (RTI) is providing instruction and interventions to student needs. These strategies are student-centered and hands-on and provide students with critical thinking skills.

### **PDSA Cycle**

A PDSA cycle can be used to improve any aspect of an organization. An essential component of the PDSA framework is to improve and study the cause of a problem to achieve quality. The first step is to recognize and decide if a problem exists. Next is to identify what led to the problem and create a plan to address it. In the plan, key questions are posed to establish a focus on a specific goal or objective to achieve or to solve the problem to improve learning (Vaszauskas, 2011).

### **Related Study**

Teachers were asked to define success in their classroom and what was needed for students to be successful. The definition of success is a favorable or desired outcome. Teachers focused on the PDSA process to measure success. Therefore, improved results according to Hoy (2007), were perceived as improving student achievement. Students scoring an 80% or above on classroom assessments were considered proficient as a class goal. PDSA consisted of the visual display of learning targets, instructional strategies, and activities in all learning cycles including the data results. What teachers perceived as success and what led students to be successful in their classroom differ. The results showed that most teachers disagreed on the 80% expectation for all students. Teachers

felt that any milestone towards success was worth celebrating and worthy of success. Teachers viewed success as gradual and did not think all students reached mastery at the same time (Hoy, 2007).

A teacher in the group used her child as an example citing that the No Child Left Behind (NCLB) accountability system labeled her daughter a struggling learner in her primary years of schooling. The teacher shared that her daughter experienced gradual success at her rate of learning and not only graduated high school but college. This teacher was passionate about not relying on a proficiency score to determine success (Hoy, 2007).

Teachers felt that certain conditions on the part of teachers such as organization, preparation, structure, and overall awareness of the details of the goals and objectives promoted students success. Engaging students in the buy-in of learning was another consensus among teachers they believed contributed to success. The teachers who cited structure and planning said this was their roadmap. Establishing the expectations and clear directions for students helped students develop an interest in their learning (Hoy, 2007).

Two teachers cited repetition and practiced carved the path to success for their students. Three teachers felt growth determined success. Teachers were asked to describe how they know students are successful. Most agreed that students showed it in their eyes and body language (Hoy, 2007).

In a PDSA learning cycle, the teacher and students engage in discussions about the strategies that will best help the class learn a specific skill. The teachers in the study were open to new ideas to help their students learn; however, a teacher saw a disconnect between her beliefs and the PDSA process in measuring success. The teacher stated that

the PDSA process indicates that 100% of the students in her class will make 80% on an assessment. This expectation upset the teachers because they felt these goals were unrealistic. Some teachers felt that the PDSA process through the systems approach was asking them to have all students score 80%. Most teachers believed growth was the most important indicator of success, not the score (Hoy, 2007).

A teacher described success as when students understood the concept. A kindergarten teacher expressed that her students were required to know their numbers up to 20 by a certain time frame. If they were aware of their numbers to 10, she believed success was achieved even if her students could not add. Another teacher pointed out that the opinions of students mattered in determining success. Raising the hands for the teacher to see who has learned the concept was an indicator of success as an informal assessment. Another teacher used discussion at the end of the day as a means to measure learning success. Students in this teacher's class had to explain the concepts that were taught in their words. Another teacher described student engagement in learning as success and limiting office discipline referrals when students chose not to get themselves in trouble (Hoy, 2007).

All teachers agreed that when student basic needs were taken care of and they were kept safe, learning took place successfully. However, the teachers were very passionate about when students built knowledge and showed growth; they agreed that too was considered success (Hoy, 2007).

Teachers were asked to think about teaching and learning and to describe each word and how they were similar and different. Teachers were also asked to describe their role in the classroom and that of their students. Teachers defined the functions of teaching and learning as a partnership or acquiring information for improvement.

Teachers also saw themselves as the facilitators of information and the model for guiding students to knowledge. Teachers felt that when they functioned in these capacities, they showed personal interest, built relationships, and inspired their students. The students' role according to the teachers was to take responsibility for their learning and to help others who struggled in the classroom with their knowledge through peer tutoring.

Teachers cited listening to student ideas; giving them a voice served as input in helping them taking responsibility. Student input and their critical thinking skills helped teachers tailor their instructional delivery to be more meaningful for the students. Teachers saw value in this partnership (Hoy, 2007).

### **Implementing A Systems Approach Frustration**

Hoy (2007) explained that the core process of a systems approach in the classroom was the PDSA; however, some teachers were resentful of the systems approach to school improvement. One teacher felt that too much was happening at once with the implementation of a systems approach, and this led to frustration. A teacher reminisced his business experience dealing with numbers and data and having to make decisions on how the data looked. Another teacher who also had a business background commented on how the employees were expected to follow a systematic standard for the marketing business. This teacher felt that what educators expected of children could not be equated to a business standard due to the unique way each child learned. This group of teachers was opposed to standardizing classrooms (Hoy 2007).

The perception that some teachers had as a result of the implementation of a systems approach was increasing their workload and duplicating what some felt they were already doing; for example, assessing and keeping a log on grades earned. With the implementation of the systems approach, teachers were now giving a district short cycle

assessment in addition to their expected curricular assessment. Additionally, teachers kept their grade books on individual students and group proficiency charts from the PDSA data. Although most teachers felt that keeping track of data was important, they also felt that the way they kept track of data was sufficient. With the implementation of the systems approach, their workload increased. Teachers felt the work was duplicated in reference to the individual assessment data and keeping up with the grade book which was unnecessary extra work. Hoy (2007) concluded that the frustration resulted from teachers losing control of a certain aspect of their classroom routine, because they were being asked to do things differently than their comfort level.

### **A District's Expectation of a Systems Approach**

The district provided training to all teachers and instructional coaches with an outside consultant. In training, the implementation process was established. Two teachers, in particular, felt that there was a discrepancy with what they received at the training and what was being done in their classroom. The instructional coach affirmed that they were doing well with the implementation. However, when the lead district's coach visited their classroom, the observation indicated that these teachers needed to add another step to display the data tracking chart with the quarterly results on the PDSA board. The teachers became frustrated. These teachers were being asked by the lead district coach to do something differently than what they understood. Hoy (2007) explained that due to elapsed time and with six different trainers from the outside consulting firm, teachers and instructional coaches may have forgotten that at the initial training, the materials that were provided showed that a data chart tracking quarterly assessment results should be included in the classroom PDSA board. Hoy concluded that perhaps the instructional coaches throughout the district might have interpreted

differently the information received at the training. Nonetheless, having been asked to make a visual change to the PDSA display frustrated two teachers who were making an effort to implement a systems approach in their classroom. One teacher expressed that the visual display of goals and PDSA is time consuming and merely serves as an accountability management system to comply with the district's mandate in the event a visitor from the district came. One teacher felt that although the concept of a systems approach is ideal and a good model in theory, the paperwork involved in creating visual displays was overwhelming. Hoy noted that all teachers expressed wanting what is best for the students and truly believed it was important for students to be responsible for their learning. Despite the miscommunication or misinterpretation in the initial training with the PDSA process, the teachers strongly valued that students should have a voice and provide input into how they learn best. Some, however, felt stifled due to the prescriptive nature of the perceived expectations of the overall process (Hoy, 2007).

Hoy (2007) indicated that not all teachers felt frustration with the systems approach. A new teacher saw the systems approach as an instructional framework that unified best practice concepts. The framework helped her plan and teach and allowed her students to learn. The teacher referenced the PDSA process as a beneficial teaching tool. The teacher believed that the benefit of the data presented in the PDSA assisted her in making adjustments in her instructional delivery. Another teacher expressed that the theory of a systems approach had the potential to empower students to take responsibility for their learning over time (Hoy, 2007).

One teacher expressed that PDSA helps the whole school move in the same direction to fix a known academic deficit. The goal of the systems approach according to a teacher is to look at the systems approach as having layers that are aligned and moving



in synchronization to attain the goals of CCI. With the school's deficiencies clearly spelled out in the EPSS, the systems approach brings relevance in the classroom where it can be personalized to address the specific learning gaps in the classroom (Hoy, 2007).

Hoy (2007) stated that PDSA is crucial in a systems approach to school improvement in the classroom because of the four parts in the cycle focus on learning. High-yield strategies are incorporated; results are displayed which can be studied to assess learning or identify areas for improvement. The Plan section of PDSA is the main focus for learning which can be taught in a 5 to 7-day learning cycle. Hoy indicated that instructional strategies were a key aspect of implementing a systems approach with PDSA. In the Plan section, all learning targets are displayed along with the instructional strategies the teacher intends to use in student friendly language. The Do section of PDSA contains strategies and activities to facilitate learning. A tracking chart served as a tool which includes a plus/delta to help identify strategies that helped students learn and also to record what kept them from learning and would need to change in the next PDSA learning cycle. The Do section of PDSA involves a partnership where the students share with the teachers the specific strategies that help them the most. The Study section of PDSA includes the data results from an assessment in a graph format depicting how the class did overall. The Act section of PDSA involves a discussion of the specific strategies that worked or did not work in the PDSA cycle. At the conclusion of the Act section, another learning cycle will follow. Depending on what recommendation is made in the Act section, the change can occur in the Do section in the next cycle of learning (Hoy, 2007).

The teachers saw the following benefits with PDSA for students: an increase in interest or motivation in their personal progress on assessments and clear understanding

of what is expected to be proficient. For the teachers seeing the progress of an entire group over a period, at a glance, they can see how close the class is to meeting the proficiency target or beyond. Teachers also discovered that they could use the PDSA cycle for nonacademics such as party planning, classroom management, trip planning, and any other areas they felt needed improvement (Hoy, 2007).

### **CCI Embedded in PDSA**

CCI promotes a positive student-teacher rapport in which the overall development of the child is a primary focus. To ensure success for students, CCI incorporates instruction and interventions in the classroom. CCI empowers students to take ownership and have a voice in their learning. CCI helps teachers enhance their instructional deliveries through reflective practice. The instructional design in CCI is student centered and considers instruction from the perspective of the learner. Once an action plan is activated, the final step of continuous improvement is to repeat the process again and again until the initially identified process that needed improvement is no longer a concern. As a result, when using the curricula, teachers choose a standard on which to concentrate in a learning cycle. They break the standard down into its parts, then set an aim with their students to achieve the substandards. Next, they identify and test different instructional approaches to help the student reach the objective. Each learning cycle runs approximately 7-10 days. Within the cycle, teachers collect student data to track student progress toward the objective. Teachers additionally receive feedback from students indicating which instructional strategies were helpful, which need to be tweaked, or which need to be abandoned altogether. This conversational piece empowers the learner to have a say in how they learn. The data are then posted in the classroom. A visual of the data motivates students to focus not only on their learning but also to support that of

their peers (Hoy, 2007; Park et al., 2013).

The School District of Menomonee Falls (SDMF) uses continuous improvement. SDMF serves 4,270 students with 550 full- and part-time staff in four elementary schools, one middle school, and one high school. The village of Menomonee is located in the greater Milwaukee area. The district's mission is to provide the best personalized and comprehensive education to students and prepare them to contribute to the future. The teachers at Menomonee Falls demonstrate their ability to track student progress and inform instruction using the PDSA learning cycle. One primary strategy they use is to develop classroom learning systems guided by the curricula where teachers and students work together. Training opportunities are created for teachers in the district, and teachers use the improvement tools learned to create classroom learning communities. Each leader in the school system has an improvement process to ensure continuous improvement occurs in instruction and within the operational functions of the district. Complete alignment is evident in the goals of the district and those of the school board (Park et al., 2013).

SDMF adopted quality improvement processes and had been recognized in the field for successful continuous improvement methods. The data gathered were compiled through a 90-day scan which was comprised of a combination of literature reviews and unstructured individual interviews. The results were organized and collected in two categories: classroom-level instructional improvement and system-wide improvement.

1. At the classroom-level, student data were used to drive instructional improvement in the classroom. Given that the primary goal was to get teachers to use data to improve instructional and classroom processes, this focus motivated infrastructural changes in practice from the bottom up. In

other words, from the classroom to the school and the district levels. They created a grade level and a school data committee that looked at data on processes and outcomes that informed decision making at the classroom level. The processes and the results also included the instructional coaches who trained teachers on how to analyze and use data regularly to inform instructional practices and processes.

2. At the system-wide improvement level, the focus was on process and performance management in the districts on the belief that these broader infrastructural improvements from the top will better support instruction and learning in the classroom. In this context, the process is broken down into specific conditions that continuously form a series of steps to transfer inputs into outcomes. Educational organizations are focusing on continuous improvement at the district level in an attempt to improve the processes that take inputs – financial investments in teacher training – and produce outcomes – educating children through tests of measurable change. They propose interventions to render processes more efficacious.

In 2011, SDMF had a 100% graduation rate. Academic achievement across grade levels was also consistent, with typically 80-95% of students scoring proficient or advanced in each subject area of the Wisconsin Knowledge and Concepts Exam, a state assessment for Grades 3-10. Moreover, SDMF's results have consistently been six or more percentage points higher than the Wisconsin state average. In 2010-2011, 279 SDMF students took the ACT and averaged an overall composite score of 23.1, which falls in the 70th national percentile. During the same year, 151 students took 237 AP exams, with 67% recording a score of three or higher (Park et al., 2013).

The superintendent set a clear vision that all 300 teachers in the district receive training and use improvement tools to create classroom learning communities when continuous improvement was brought to the classroom. The superintendent worked closely with each leader in the system to ensure the improvement process penetrated both the instructional and operational functions of the district. Continuous improvement was emphasized as a priority when the administration addressed staff evaluation and student academic growth. The district aimed to shift the focus on evaluating all teachers in improving their practice and outcomes. The teachers need support and ongoing training to properly incorporate clear goals for improvement in their specific curriculum (Park et al., 2013).

SDMS used the PDSA cycle methodology which is used as a strategic planning tool and a way to test small changes. They collected data on monthly benchmark assessments and educational processes in an attempt to use the data to inform instruction during the year. The staff's capacity in using continuous improvement methods was enhanced when the district invested in training the trainer model. An outside consultant developed the skills of key administrators, institutional coaches, and teachers in the district to support the implementation of the framework (Park et al., 2013).

SDMF provides a window into classroom-level instructional improvement and the infrastructural support the district has created to make the initiative possible (Park et al., 2013).

### **Summary of PDSA and CCI**

A PDSA cycle can be used to improve any aspect of an organization. In a PDSA learning cycle, the teacher and students engage in discussions about the strategies that will best help the class learn a specific skill. The perception some teachers had as a result

of the implementation of a systems approach was increasing their workload and duplicating what some felt they were already doing. The district provided training to all teachers and instructional coaches with an outside consultant. Hoy (2007) indicated that not all teachers felt frustration with the systems approach. The framework helped some plan and teach and allowed students to learn. Teachers believed that the benefit of the data presented in the PDSA assisted them in making adjustments in their instructional delivery. The systems approach has multiple layers that are aligned and moving in synchronization to attain the goals of CCI. CCI promotes a positive student-teacher rapport in which the overall development of the child is a primary focus.

## **Chapter 2 Summary**

This chapter provided a review of the literature. The theoretical framework within which the study is grounded revolved around the phenomenon of experience embedded in three constructs. The first construct was school culture; the second construct was the concept of TQM; and the third construct was the use of PDSA. This chapter focused on a review of the theory and best practices that have been woven into continuous improvement and provided an overview of the use of PDSA learning cycles in CCI. These topics conceptualized a systems approach to CCI at the classroom level.

### **Chapter 3: Methodology**

#### **Introduction**

The purpose of the study was to determine the perception of teachers implementing a systems approach through CCI. School districts display a sense of urgency to hire competent and qualified teachers to provide quality instruction; and most recently, teacher evaluations tie to student growth. As such, school improvement initiatives appear, but often their implementation efforts are poorly managed and result in their failure. Therefore, the adoption and rollout of a program are not enough to produce continuous improvement. The challenges that teachers face today to have students succeed and to be lifelong learners require embedding quality in the education process. Teachers restructure learning through a shared responsibility with students (Gruenert & Whitaker, 2015; Koonce, 2014; Siegel & Byrne, 2014; Tanner, 2013).

This study replicated some aspects of a previous study on the experiences of teachers in the implementation of a systems approach conducted by Hoy (2007). The previous study was a qualitative phenomenological study that examined and described the experiences of seven elementary teachers. This study was qualitative and examined the perception of teachers using a systems approach. The research questions and subquestions in the current study are identical to the Hoy study. The researcher deviated from the original study through participant selection. Hoy went to a staff meeting and asked for volunteers. The researcher has asked principals to purposefully select the participants. Hoy conducted three focus group session with the seven participants of which two gave permission to be observed. The researcher deviated from the focus group setup where the researcher met with two focus groups one time each. The interview questioning route was consolidated. The theoretical framework within which

the study was grounded revolves around the phenomenon of experience embedded in three constructs. The first construct is school culture; the second construct is the concept of TQM; and the third construct is the use of PDSA. The researcher hopes in addition to the original study to provide current teacher experience with knowledge of teaching and learning to help shape effective schools so school districts can focus on the “whom” we are teaching and not just the “what” and “how” we need to teach. This study sought to establish if teachers are equipped to sustain this framework at the classroom level effectively. The methodology of this qualitative research was qualitative. Qualitative research is a strategy in which the researcher identifies the core values of human experiences about a phenomenon from the participants’ point of view in a study (Creswell, 2014; Maxwell, 2013; Moustakas 1994). Butin (2010), Creswell (2014), Maxwell (2013), and Moustakas (1994) explained that the idea behind the qualitative research is to select participants purposefully to assist the researcher to understand the problem and the research question.

The theoretical framework within which the study was grounded revolves around the phenomenon of experience embedded in three constructs. The first construct is school culture; the second construct is the concept of TQM; and the third construct is the use of PDSA. The research focused on the theory and best practices that have been woven into continuous improvement and provided an overview of the use of PDSA learning cycles in CCI. The researcher delved in the why a systems approach to CCI is used at the classroom level.

### **Design of the Research**

The question that served as a guide for this study was, “How do teachers perceive the implementation of a systems approach to continuous improvement?” Three



subquestions helped to address this question.

1. What are teachers' knowledge, understanding, and perceptions of teaching and learning?
2. What are teachers' knowledge, understanding, and perceptions about a systems approach to school improvement?
3. How does what teachers know and understand about teaching and learning fit with the meaning they have constructed and their knowledge, understanding, and perceptions about a systems approach to school improvement?

This qualitative study proposed to identify the elements of teacher perception using the CCI framework as having an impact on teaching effectiveness in three rural schools in North Carolina. The study focused on the perceived value the CCI framework has on CCI and the perception of teachers concerning the extent of the implementation of the framework, after a time. This study examined how the application of continuous improvement in the classroom affects school culture, TQM practices, and PDSA by examining how teachers experience the CCI framework. The researcher sought approval and attained permission from the Institutional Review Board and the school district before conducting the research at the selected sites.

Natural knowledge and experience have their origin in perception. The phenomenon of interest to the researcher was the perception of teachers with the implementation of a systems approach to CCI. Qualitative research is summed up in a term referred to as bracketing where the main purpose is to get to the core of the phenomena, which is one's perceived and subjective reality. In bracketing, there is no preferred position or predetermined notion. The subjective perception constitutes an authentic experience where the researcher makes all reasonable efforts to remove all

preconceived ideas, judgments, and bias they may have about the phenomena. The topic is bracketed to reflect specifically the phenomenon in a process. Moustakas (1994) explained bracketing the phenomenon that will be analyzed and removing all scientific facts to attain new open knowledge. The researcher takes the data apart to make meaning of the information provided by the participants with conscious and deliberate intent to get the true perception of the phenomena (Butin, 2010; Creswell, 2014; Maxwell, 2013; Moustakas, 1994).

The research design of the study was qualitative and involved two focus group interviews. A third school declined participation at the last minute. Focus group interviews were the method used to collect data on how these teachers perceived the implementation of CCI at their school. The participants received the questions and had a week to gather their thoughts. The teacher interviews incorporated multiple grade levels from each school. The interview responses were studied and analyzed to identify common themes on the perception of teachers following the implementation of the CCI framework.

### **Setting**

This study was conducted in two rural schools in North Carolina in a school system comprised of 53 schools: 30 elementary, nine middle schools, 11 high schools, and three specialized schools. There are 42,000 students enrolled with 2,769 teachers in the entire school system. The research focused on two schools within the school system that piloted this framework in various implementation stages of the CCI model. At the time of the research, the two sites were at the teacher and student partnership stage which is the second phase of implementation. Some teachers at School B received training at the third phase of implementation. This study only focused on the first phase which is

CCI. These schools followed a traditional school calendar. They all had a blend of beginning and seasonal teachers.

### **Demographics**

Additional demographics published by the Department of Public Instruction were provided for each school. The demographic information showed differences between the two schools and presented an overview of participant professional experience. School A has 42 classroom teachers. One hundred percent of the teachers employed are highly qualified. Thirty-three percent of the teachers have advanced degrees. Ten teachers are National Board certified. Twenty-six percent of the teachers have 0-3 years of teaching experience. Fourteen percent of the teachers have 4-10 years of teaching experience, and 60% of the teachers have 10 years or more of teaching experience. School B has 43 teachers, and 100% of their teachers are highly qualified. Thirty-seven percent of the teachers have advanced degrees, but six are National Board certified. Twenty-one percent of the teachers have 0-3 years of teaching experience. Thirty percent of the teachers have 4-10 years of teaching experience. Forty-nine percent of the teachers have 10 years or more of teaching experience.

### **Participants**

The participants were professionals with a K-6 certification or middle grade certified teachers who are currently using the CCI framework in their classroom for at least 1 year. The criteria to participate was set to ensure the validity and understanding of the problem related to the research question. The participants represented the following: Grades K, 1, 2, 3, 4, and 5. Participants and schools were purposefully selected to represent Grades K-5 from the two schools to answer open-ended questions intended to obtain the views of the participants. Six participants from School A were selected and

accepted to participate in the first focus group. Six participants from School B were selected for the second focus group; only five chose to participate in the focus group.

Each focus group participant was determined by meeting the criteria of using a systems approach/CCI for at least 1 year or more. The researcher sought the assistance of the selected schools' administrator to purposefully select and identify the participants for the proposed study. The principals had some knowledge of the teachers who possessed pertinent information that helped to inform the study. The chosen participants were asked to provide answers to questions leading to answering the research question at their school. An invitation to participate was sent to the staff selected by the principal of each school informing them on the purpose of the study and the criteria to participate.

Participation in the focus group was voluntary. Once participants chose to volunteer, they had to sign and submit a consent (Appendix A) to participate form generated by the researcher.

Maxwell (2013) suggested purposefully selecting people who can provide information to a research question. The two schools and participants were selected because they used a systems approach/CCI. Each focus group interview session lasted approximately one hour and 30 minutes. Each participant representing a grade level was assigned a pseudonym. The real names of the participants were not used in order to protect their identity. A copy of the transcript was provided to each participant to ensure the accuracy of their response.

### **Research Relationship**

The researcher enlisted the help of the principal to recruit the participants for the study. The researcher introduced herself as an assistant principal at an elementary school who is also a doctoral student. Participants had the opportunity to read the researcher's

biography on the school's website to establish a personalized relationship.

### **Validity**

The researcher contacted Dr. Linda Hoy, whose 2007 study was being replicated, requesting validity for the qualitative questions (Appendix B). The researcher also sent the same questions to Jim Shipley, trainer for CCI (Appendix C), requesting validity to the qualitative questions. Jim Shipley is the owner of the consulting firm the district used to train the pilot schools. Both Dr. Hoy and Jim Shipley provided validity to the qualitative questions.

The interviews in the Hoy (2007) study were tape recorded with verbatim transcriptions. The researcher adapted and consolidated the questions from the Hoy study. The researcher reached out to Dr. Linda Hoy to have the proposed questions validated. The researcher was a school administrator at the study site that declined participation in the study. The researcher also received training in the systems approach. The researcher chose to transfer to another school within the district to distance herself for an entire year on the systems approach so she could get to the core of the phenomena without any predetermined notion.

### **Instruments**

Digital recording devices were used to record interview sessions. Open-ended questions were utilized to gather the qualitative data.

### **Steps of Data Collection**

The data were collected during one focus group interview session at each of the two schools the spring of 2016-2017 school year. Participants received the questions ahead of time to allow time for reflection. Written notifications were sent to the participants to introduce the researcher and establish the research relationship. The

interview was tape recorded and transcribed. Each focus group was held at each school site. The researcher met the participants during the last two teacher work days at each school in a conference room at each school site. Upon entering the room, the researcher introduced herself, restated the purpose of the study, and began the interview process. The researcher used the teacher interview guiding questions (Appendix D) with additional probing questions. All responses were recorded using a recording device. Responses were later transcribed. Through the transcribed interviews, the researcher looked for themes that emerged from the responses collected. The participants had the opportunity to review their portion of the recorded session when transcriptions were completed.

### **Data Analysis**

The researcher used a moderator who is a former educator for both focus group sessions. The interview responses were transcribed by identifying central themes that provided evidence of the perception of teachers using CCI. The central themes were assessed through each participant's individual experience. The data analysis began after all interviews were completed at each site.

Creswell (2014) pointed out that when preparing the data analysis, the researcher is to keep the focus on the meaning that the participants bring to their experience. The transcribed audio was color coded to distinguish each focus group's experience. The researcher read the transcripts and took notes on each set of color-coded transcripts to identify similar relationships, patterns, or situations across the data based on the research question and subquestions.

### **Limitations**

The teachers whose schools chose to pilot the systems approach to CCI

incorporated the use of PDSA within their curriculum. Where all selected participants received individual training and support by one service provider, each school internally had different levels of implementing the framework to meet the needs of their improvement goals. Of the 11 participants, the researcher expected them to have received the same quality of training in the use of the framework. It was understood that each teacher in the study might have had different levels of understanding or interpretations in the utilization of each component of PDSA. Some may or may not use PDSA with fidelity for that reason.

A final limitation affecting the success or failure of CCI is not having the monetary resources needed to support continuous training for the development of teachers in the framework by a service provider. The fact that one school declined to participate limited the perceptions of teachers of CCI to two schools. These limitations can serve as a means for further research in determining if the systems approach has a positive impact on student achievement.

### **Delimitations**

All schools in the district were presented with the framework. While some schools did not want to begin a new initiative, the study was limited to two schools and the views and experiences of 10 preselected participants. Due to time constraints and limited access to study sites, multiple focus group sessions were not feasible for all teachers using the PDSA cycle.

The focus of the study was to examine the experience of teachers within selected schools of a predetermined county in North Carolina currently using the implemented PDSA learning cycles. The selected participating schools integrated into one framework where PDSA, systems thinking theory, and TQM fall under the single framework of CCI

at each of the two participating schools.

Student achievement within the use of PDSA was not a focus. Although the two schools were in their fifth year of implementation, the initiative has not been used consistently enough to measure the impact of student achievement.

The selection of the participants by the principal was a delimitation. The participants may have felt forced to participate.

### **Chapter 3 Summary**

The purpose of the study was to determine the perception of teachers implementing a systems approach through CCI. This study replicated an aspect of a previous study on the experiences of teachers in the implementation of a systems approach conducted by Hoy (2007) and deviated from the original questioning route. The focus group format replicated an aspect of a previous study but deviated by meeting one time with two focus groups one time each. The previous study met three times with the focus groups. This study was qualitative and examined the perception of teachers using a systems approach. The previous study was phenomenological.



## **Chapter 4: Results**

### **Introduction**

The purpose of this study was to determine the perception of teachers using a systems approach in two rural schools in a district in North Carolina. This study replicated some aspects of a previous study on the experiences of teachers in the implementation of a systems approach conducted by Hoy (2007). The previous study was a qualitative phenomenological study that examined and described the experiences of seven elementary school teachers.

### **Overview of the Chapter**

This chapter contains the results of two focus group sessions in a narrative form. The results address the perception of teachers using a systems approach. The three research questions which served as a guide are as follows.

1. What are teachers' knowledge, understanding, and perceptions of teaching and learning?
2. What are teachers' knowledge, understanding, and perceptions about a systems approach to school improvement?
3. How does what teachers know and understand about teaching and learning fit with the meaning they have constructed regarding their knowledge, understanding, and perceptions about a systems approach to school improvement?

### **Description of Participants**

Eleven elementary school teachers participated in representing various grade levels at two separate schools. The participants were given pseudonyms to protect their anonymity. The participants were all female professionals with K-6 certifications who

use the CCI framework in their classroom. The criteria to participate was set to ensure the validity and understanding of the problem related to the research question. The participants represented the following: Grades K, 1, 2, 3, 4, 5. Participants and schools were purposefully selected to represent Grades K- 5 from the two schools to answer open-ended questions intended to obtain the views of the participants. Six participants from School A agreed to participate in the first focus group, one from each grade level. School A has 42 classroom teachers. One hundred percent of the teachers employed are highly qualified. Thirty-three percent of the teachers have advanced degrees. Ten teachers are National Board certified. Twenty-six percent of the teachers have 0-3 years of teaching experience. Fourteen percent of the teachers have 4-10 years of teaching experience, and 60% of the teachers have 10 years or more of teaching experience.

Five participants from School B chose to participate in the focus group, representing Grades K, 1, 2, and 3, along with an AIG specialist. The specialist served as a technical support coach for CCI at the district level. School B has 43 teachers and has 100% of their teachers highly qualified. Thirty-seven percent of the teachers have advanced degrees, and six are National Board certified. Twenty-one percent of the teachers have 0-3 years of teaching experience. Thirty percent of the teachers have 4-10 years of teaching experience. Forty-nine percent of the teachers have 10 years or more of teaching experience.

### **Methodology Overview**

This qualitative study proposed to identify the elements of the CCI framework perceived to have an impact on teaching effectiveness in two rural schools in North Carolina. This study examined how the application of continuous improvement in the classroom affects school culture, TQM practices, and PDSA by examining how teachers

experience the CCI framework.

Qualitative research is flexible and reflective, which is one's perceived and subjective reality. There is no preferred position or predetermined notion. The subjective perception constitutes an authentic experience where the researcher makes all reasonable efforts to remove all preconceived ideas, judgments, and bias they may have about the phenomena to attain new knowledge. The researcher takes the data apart to make meaning of the information provided by the participants with conscious and deliberate intent to get the true perception of the phenomena (Butin, 2010; Creswell, 2014; Maxwell, 2013; Moustakas, 1994).

The research design of the study was qualitative and involved two focus group interviews. A third school declined participation at the last minute; consequently, data were presented from two focus groups.

The method used to collect data was focus group interviews at two school sites. This method was chosen for several reasons. The focus group format replicated an aspect of a previous study but deviated by meeting one time with each focus group. Due to time constraints and limited access to study sites, multiple focus group sessions were not feasible. This format provided the researcher with control over the line of questioning to probe so participants could give more details to arrive at the heart of the research question. The participants received the questions ahead of time to allow time for reflection to maximize their time as they shared their experience.

Scheduling the interviews was challenging as the end of the school year was approaching. There were several events taking place at each school, making a mutual location and agreed upon time for the participants to meet as a focus group difficult. The participants agreed to meet on the last two working days of the school year.

## **Data Collection**

The recording of the focus group sessions took place in a natural work setting, which helped the researcher listen and observe the participants interact as they answered the questions. The natural setting was the school and the most convenient location agreed upon by the participants so they could discuss their experience as a group. Each group met at their school's respective conference rooms which allowed continuous dialogue.

The interviews were tape recorded using electronic devices Olympus recorder and a Sony electronic device as a backup. Each interview on average lasted approximately one hour and 30 minutes. The interviews were semi-structured and remained on target with the discussions. The format allowed the conversation to evolve into the heart of what the research questions sought to discover.

Upon entering the room, the researcher introduced herself and explained to the participants the purpose and function of the moderator, a former educator. The moderator's function was to keep time, see that the discussions flowed equitably, and to assist the researcher in keeping track of various speakers' responses. The researcher was able to listen to the participants discuss in their natural environment freely and take notes on the most important points heard in their discussion.

As an icebreaker, the participants were invited to select a pseudonym of their choice to help protect their identity. The researcher used the teacher interview guiding questions (Appendix D) with additional probing when necessary to get in-depth detail responses or clarifications. The first focus group consisted of Beth (K), Susie (1st grade), Mary (2nd grade), Jane (3rd grade), Anna (4th grade), and Lisa (5th grade). The second focus group consisted of Penny (K), Rose (1st grade), Cindy (2nd grade), Barb (3rd

grade), and Bonnie (AIG specialist).

The researcher focused on the total perceptions shared by the participants. The transcriptions were shared with the participants. The participants had the opportunity to review their portion of the recorded session and confirmed the accuracy and intent of their responses.

### **The Bracketing Process**

Through the transcribed interviews, the researcher looked for themes that emerged from the responses and coded them. The documents were analyzed closely, using various colors to identify the developing themes present. The researcher cross referenced the notes and the hard copies of the transcripts and assigned code words to construct an understanding of teacher experiences. The frequency to which the code word occurred and their sources representing the school sites were recorded in separate columns. The data were placed on a table as a visual (see Table 1).

Table 1

*Codes Produced from the Data Including Sources and References*

Code Words	Number of Coding Sources	Number of References
Strategies	2	63
Reflection	2	49
Data	2	25
Student ownership	2	20
GRR	1	13
Visual aids	2	12
Partnership	2	11
Student teaching teacher	2	11
Accountability	2	11
Modeling skill	2	11
PDSA	2	8
Teaching goals	2	7
Individualized learning	2	6
Growth focused	2	6
Bigger picture	2	6
CCI	1	5
Peer educating	2	5
Student expectations	2	4
Building blocks	2	3
Student expectations	2	4
Real life scenarios	2	3
Graphs	1	1

*Note:* The left column shows the code words. Coding Sources refer to how many data sources the code occurred in. References refer to how many times the code was used across all data sources.

The researcher's notes during and after each focus group interview session assisted the researcher in the analysis process along with the transcribed recordings to help categorize and conceptualize the data to produce a narrative account of teacher experiences including direct quotes from the participants.

## **Findings**

The data were represented and organized by themes that emerged under each code (see Table 2).

## Data

Table 2

*Emerging Themes Produced from the Data Including Codes, Sources, and References*

Themes	Codes
Strategies	Visual aids Partnership Student teaching teacher Modeling skills GRR Peer educating Graphs
Reflection	PDSA Systems approach Individualized learning
Student Ownership	Accountability Data CCI Teaching goals PDSA
Growth focused	Bigger picture Student expectations Building blocks Student confidence Real life scenarios

*Note:* Themes are the bigger picture painted by instances. Codes describe a particular instance and themes.

The results were represented and organized by each research question to answer the overarching purpose and themes that emerged under each research question (see Table 3).

Table 3

*Results and Discussions*

Research Question	Method	Relevance of Data
RQ1	Qualitative	Strategies
RQ2	Qualitative	Reflections
RQ3	Qualitative	Student Ownership Growth Focused

*Note:* RQ1, RQ2, RQ3=Research questions. Method=Qualitative. Relevance of Data=Themes.

### **Teacher perceptions of teaching and learning.**

1. What are teachers' knowledge, understanding, and perceptions of teaching and learning?

Teacher perceptions of teaching and learning incorporated the sharing of successful lessons in their classroom, including lessons that needed adjustments to meet the needs of the learners. Teachers identified the key indicators that led them to believe that the original lesson needed to be adopted and how they arrived at using multiple strategies that yielded success for their students. The data produced four emerging themes: strategies, reflection, student ownership, and growth focused.

The researcher's notes during and after each focus group interview session assisted the researcher in the analysis process along with the transcribed recordings to help categorize and conceptualize the data to produce a narrative account of the teachers' experience including direct quotes from the participants.

The researcher observed through the conversations of both focus groups that instructional strategies, reflections, student ownership, and growth focused played a huge part in setting learning goals which gave meaning to teacher instruction in the systems approach.



## Strategies

Teachers used the research-based strategies and activities in their classroom that were effective to teach their students. Those strategies were used to improve the learning process. The teachers engaged students in improving the classroom learning system. The data showed that teachers wanted students to apply and know which strategy to use and execute to support and manage their learning. The participants shared and cited the teaching strategies that worked best in their class for their students.

The frequency of the use of instructional strategies was prevalent in both groups. One teacher said that strategies are tools to help students think through the learning process and the broader concept of what is being asked to make meaning in the content she is teaching. All participants to some degree supported the idea that strategies are methods used by teachers to provide instruction. Those strategies are then utilized and applied by the students in their work. The researcher learned that teachers use multiple learning strategies they believe work in learning cycles regardless of the subject or grade level. Teachers applied these strategies to build lessons with a continual plan to where the students and teachers have input to address learner needs.

Lisa began by defining her understanding of strategies as tools tucked away under the belt to be used when needed. “Strategies are ‘tools’ that you have tucked away in your tool belt and use them when needed for a specific job. They are your ‘go-to’ when solving a problem” (Lisa, personal communication, June 12, 2017).

Lisa further asserted the importance of explaining to her students what a strategy was so they could have a point of reference to get the job done. Lisa continued by providing an example where she had her students go back to the question to find out if the answer was reasonable according to what was being asked. Lisa discovered that

going back forced her students to ask themselves if their answers made sense or if they understood the problem correctly.

A helpful strategy when solving math word problems is to go back to your question once you find your answer and ask, “Is my answer reasonable with what the question is asking?” This helps students make sure their answer makes sense, and they have read and understood it correctly. (Lisa, personal communication, June 12, 2017)

Lisa shared two additional strategies; a strategy for writing a well-detailed summary for nonfiction and another for success on assessments.

A strategy for writing strong summaries for nonfiction is to highlight important vocabulary, names, dates, etc. and any nonfiction features in order to understand the important information to include. A strategy for being successful on assessments is to “slash the trash.” Students eliminate silly answer choices first and understand why they are incorrect. (Lisa, personal communication, June 12, 2017)

Mary, on the other hand, admitted that she had to remind her students of the difference between a “tool and a strategy.” As she pondered, she admitted that she too got tools and strategies confused at times. The goal was to have her students transfer the strategies to any book they read by appropriately applying the strategy and illustrating it using a fishbone or lotus diagram tool. She said that graphic organizers helped her students a lot in reading. She explained that within graphic organizers, there were strategies that had different purposes and could be used for making predictions before a book was read. She said this helped the students who rushed through. She has used graphic organizers to have her students check off their predictions. She built a strategy

bank for her students to refer to.

I talk to my kids about the differences between strategy and a tool trying to get them to take ownership and use those strategies with a book on their own and they go “Oh, I am going to use a fishbone” or “Oh, I am going to use a lotus diagram.” Well, that is your tool but what is your strategy going to be to understand the book and as I am sitting here trying to think of one, all I can think of is tools. I am thinking sticky notes or a big bookmark . . . graphic organizers really help them slow down. But the strategies you use within those graphic organizers are used for a different purpose. You could be using graphics organizers to make predictions before you even read the book. And that really helps kids who fly through the book and make those predictions beforehand and to have to check them off or x them out; that slows those kids down versus the kids who have to use a T-chart of the word you do not know and the strategies you used to solve it. (Mary, personal communication, June 12, 2017)

**Modeling skills.** Teachers discussed how varied modeled skills were applied to assist students. “I did a lot of modeling on how to break apart a poem and all the aspects of the poem I did that for several days” (Anna, personal communication, June 12, 2017).

Susie was passionate about modeling and think aloud as strategies. According to Susie, these strategies helped her to personalize her instruction. She did not always model and assumed that directions were evident when she provided them with what she wanted the students to do. She would get frustrated when her students were not successful. Susie emphasized that both modeling and think aloud were vital for her students’ success. She understood how her students used their thinking. When Lisa worked in small groups or the whole group, she knew how to intervene appropriately.

She felt that when her students expressed out loud their thinking while working on an activity, she was able to respond with the proper feedback or by providing clearer directions when students were heading in the wrong direction of the intended task. In essence, according to Susie, the students became aware and knew what they needed to go back to and correct. The think aloud, as Susie put it, was beneficial in reading comprehension activities and problem solving in math and could be applied in any subject. Susie was able to provide the proper support by hearing how her students processed information out loud or observed them struggling to solve a problem and finally watched them go back to recheck their work.

I would give them an assignment, and they can do it until their head falls off and it would be wrong. And then you model it one more time, and there you have it! Thinking out loud. It needs to be something simple they know how to do than be in the middle of it and think “oh there was something I did not do. I have to go back.” (Susie, personal communication, June 12, 2017)

Jane agreed with Susie as they both experienced similar results in her class. Jane stated how important it was for her students to hear her think-aloud process first. She modeled thinking aloud continuously. When she did not model, she had to reteach the missed concept. She used the kid-friendly language her students could understand and emphasized the importance of modeling the think-aloud process she wanted her students to be able to do.

They need to see your thinking. Sometimes you have to put yourself on their level, and sometimes we take for granted and jump ahead and then you have to go back. It forces you to reflect and forces them to do their part. (Jane, personal communication, June 12, 2017)

**GRR.** The second focus group incorporated other research-based instructional strategies found in the GRR framework when teaching reading and emphasized how important it was for students to know which strategy to apply in readers' workshop.

Cindy used the component of modeling from the GRR framework. Cindy said explicitly modeling what she wanted her students to do helped guide them. She incorporated modeling in her mini-lessons and guided the students along the way as they worked with their partners. She then let them work independently while pulling into small groups to coach those who were still struggling. She reminded her students of the many bags of strategies for reading they could choose from and encouraged the students to use one strategy at a time provided they know which strategy to use. As an example, she cited breaking apart a long word and rereading a passage if it was not understood.

I found what's most effective is the gradual release of responsibility. I need to model it, and I need to be explicit about what it is that I want them to do, and then I guide them. It is all part of our mini-lesson. I am guiding them as they are practicing it with their partners, and then I set them free to practice it independently, and I'm coaching them in small groups or independently. And then we make a visual with our anchor charts or fish bowl. I would have partners come up and model again for other kids that are struggling. Well, I always jump right to reading we talk about how we have got a bag of strategies for reading, and how you use one at a time, but, eventually, you need to be able to juggle and know which ones you need to use at what time. So, if I have a longer word, my strategy is to break apart the word. If I do not understand what I read, my strategy is to go back and reread, so it makes sense. Our strategies, I guess, are a bag of strategies. (Cindy, personal communication, June 13, 2017)

Penny agreed with Cindy on the success of GRR's component of modeling as a strategy. Penny felt that her students could not do the "how" unless the "how" was shown to them. As a class, they practiced together along with her; then they worked individually.

When I think of the word, strategy, I think it is providing students with the how to reach that objective that we have set. So, teaching them how they are going to get there. As far as the strategies, I feel like I am just repeating what you said. The modeling, to me, was probably the most important thing. Because they cannot do the how unless we have shown them. So, the modeling and then the shared practice when we are all together. And then going off and allowing them to do it independently and then sharing with a partner. That is success in using that strategy. (Penny, personal communication, June 13, 2017)

Bonnie's definition of strategy is a bag of tools. Bonnie also used modeling because she believed that when the students saw the modeling process, the concept stuck with them. Her students in turn modeled for each other when they worked out problems together. Bonnie discovered that her students talked just like her when they showed the strategy they used. According to Bonnie, the most efficient strategy she stressed in reading is referencing the text by having students go back to find evidence for their answers.

I think of strategies like you were saying is like a bag of tools. You model strategies for these kids because one might really stick with a child that the rest may not use it. But this boy or this girl likes to model out their multiplication problems or things like that, where no one else in the room may do it. But that is his strategy that works for him. So, to be able to provide them with the tools they

need to be successful, no matter reading or math. I agree modeling is huge. The kids, they will even talk, just like you do when they show you their strategy. But I feel like, for me, a specific strategy that I use that I think's most successful in reading is going back and finding evidence for their answers in texts. Out of everything, that is probably the most important one that I always stress and going back in the text cannot be harmful [laughter], I do not think. And then, like you were saying, some of the reading strategies, going back and rereading, breaking apart words, all these strategies, I think, are good ones. (Bonnie, personal communication, June 13, 2017)

Barb was the quietest participant but agreed with Bonnie and added that for her, finding the right strategy that worked for her students was important because there were so many. She shared that many of her students did not try the strategies she taught them. Barb provided material tools for her students as she felt they needed a starting point.

I agree with Bonnie. Sometimes it is just finding the way that's going to work for the child. I teach so many strategies just to find the one way that's going to help that child learn. I will teach strategies, and there will be those children that will not try any of the strategies. In math giving them the graph paper, giving them the you are teaching so that they can get to the correct answer or get to the learning, of whatever it is that you want them to achieve. (Barb, personal communication, June 13, 2017)

Rose (personal communication, June 13, 2017) added a strategy is a tool, a plan helping accomplish a goal: "Strategy to me is a tool a plan or something you refer to, to help you accomplish a goal or something you want to get done."

**Peer educating.** Teachers discussed the use of peer educating as a strategy to

teach students. A teacher shared that her reading lesson in poetry went well when she modeled very specifically by breaking apart the poem. Although the lesson went on for several days, she saw the benefit when the students partnered and began to analyze and make meaning of the poem together. Anna (personal communication, June 12, 2017) said, “I eventually put them into partnership work and they were analyzing poetry together.” Eventually, the students were able to create their own poetry and took turns presenting and teaching the class. Susie (personal communication, June 12, 2017) stated, “When the learner can teach someone else, then it has come full circle and they have truly learned the topic or whatever it might be.” The teachers stressed the importance of having the students recognize what proficient work looks like even in kindergarten so they are prepared to teach and assist a peer to be successful. The students in Anna’s class led their weekly class meetings and reviewed the class promise which not only established their ownership and accountability but also provided them with the opportunity to reflect upon their “why” for learning (Anna, personal communication, June 12, 2017). As Cindy incorporated the framework of GRR in her teaching, she guided her students along using modeling techniques in her mini-lessons, her students practiced with their partners, and eventually were released to work independently. “I found what’s most effective is to use the gradual release of responsibility. I need to model it, and I need to be explicit about what it is that I want them to do, and then I guide them” (Cindy, personal communication, June 13, 2017).

**Visual aids.** The teachers’ discussion generally found the use of visual aids in the classroom helpful and impactful on student progress particularly in kindergarten as a helpful means to impact their formative progress. Graphic organizers helped students to organize and display information and to articulate to others what the information meant



through accountable talk. Examples cited were lotus diagrams, fishbone diagrams, and plus deltas.

Overall, teachers discussed visual aids as impactful on lessons where the students “got it” through the use of the visual aids students made in their classroom. Mary did a lesson on character traits and described how her students reacted to characters throughout the book. The use of charts as a visual assisted student understanding of the character traits which transferred through other series books. Students were able to see the similar traits of the characters, because they were visually represented through the charts.

The character, the problems, how they reacted to the problems throughout the book, and this made sense and the students were able to see, by following them through a chart, and through series books they see the same character, again and again, react to problems the same way, again and again, they were able to see more of the character traits. (Mary, personal communication, June 12, 2017)

Lisa used manipulatives to reach her students with special needs. She found that using manipulatives helped her reach and meet the needs of various learning styles in her classroom.

A lesson that went well involved adding fractions with unlike denominators. I began by building on fraction knowledge from 4th grade and drew pictures to show an additional fractional representation. I supplied my students that have special needs with manipulatives in order to find the equivalent fraction by showing equality. By showing several different fractional representations, the needs of all kinds of learners were met and they grew in understanding. (Lisa, personal communication, June 12, 2017)

Lisa additionally shared a lesson where her students struggled and where a change

in her presentation of the material had to be made to meet her students' needs. She created a visual mnemonic chart labeled K (King), H (Henry), D (died), U (unexpectedly), D (Drinking), C (Chocolate), M (Milk) to help her students remember the measurement conversion formula. She visually showed multiple examples with a meter stick so the students could differentiate between a millimeter and a meter.

A lesson that I had to modify in order to meet the needs of my students involved measurement conversions. I modeled how to use a chart for conversions labeled with the first letters of “King Henry Died Unexpectedly Drinking Chocolate Milk” and misconceptions became clear. For example, millimeters are a smaller unit than meters, so the same distance will require a larger number than meters. By using the meter stick and showing several examples, the students understood the concept, and it helped them see why the chart made sense for conversions. (Lisa, personal communication, June 12, 2017)

**Graphs.** Anna felt that the use of graphs helped organize her students' thinking in reading and writing. Her students latched on to particular types of graphs in their writing notebooks or reading notebooks. Anna concluded that graphs helped organize her students' thinking.

I think of graphs in our classrooms. There are so many of them that I find they are just so effective and individual students latch on to individual ones and the writing notebooks and the reading notebooks, getting their brain on paper. It is more organized thinking. (Anna, personal communication, June 12, 2017)

For Mary, the following visuals helped her students for different purposes: the use of sticky notes, big bookmarks, graphic organizers, and T-charts.

I am thinking sticky notes or a big bookmark . . . graphics organizers really help

them slow down. But the strategies you use within those graphics organizers are used for a different purpose. You could be using graphics organizers to make predictions before you even read the book. And that really helps kids who fly through the book and make those predictions beforehand and to have to check them off or x them out; that slows those kids down versus the kids who have to use a T chart of the word you do not know and the strategies you used to solve it. Did you skip it and come back or did you break an ending off or did you think of a similar word for those kids really trying to build a strategy bank and helps them do that. I'm going to agree with graphics organizers. (Mary, personal communication, June 12, 2017)

Penny also found sticky notes to be helpful for her kindergarteners. Additionally, she said when her students used speech bubbles and emojis that was fun for them. "Then I gave them sticky notes to make little speech bubbles, which was a big hit because they like to use sticky notes in kindergarten. But the fact that they could use emojis or words was fun for them" (Penny, personal communication, June 13, 2017).

Barb shared a lesson that served her students well using a visual representation of why line breaks in stanzas were necessary. Barb noticed that her students struggled to understand line breaks in stanzas. Consequently, their poetry work was not meeting the standards. She used a poem and intentionally did not show the poem to her class the way it was presented. To get her students to visualize the concept of line purpose and stanzas, she removed the line breaks and the stanzas, turning the poem into a huge paragraph. She then had the students read through the altered poem. Through their discussion of the paragraph, they discovered it did not make much sense. Barb then presented the original poem with the line breaks and the stanzas in it. At that point, the students made the

connection to the purpose and meaning of the line breaks in stanzas. Her students were then able to go back to their poetry to add the line breaks and stanzas. Furthermore, students realized that in poetry, a period at the end of every sentence was not necessary because putting the period at the end of the stanza was acceptable. To conceptualize their understanding, Barb emphasized to her students that the line breaks produced the comprehensible input in the poem.

Okay, so we were doing poetry writing and the kids were having trouble understanding line breaks and stanzas. So, they were just writing just a bunch of mess on paper. And so what I did was, I took a poem, and I took all the line breaks out and I wrote it like a paragraph. I took all the line breaks out and all the stanzas, and I just made it all one chunky paragraph before they ever saw it. And so we read through it, and it did not really make any sense to them. And we tried to talk about it, and they did not get it. So, then I flashed up the original poem with the line breaks and the stanzas in it, and they were like, “Oh, wow! That is cool.” So, then they understood the importance of line breaks and stanzas, and what they really meant. So, then they were able to go back into their own poetry and break it up and add those line breaks and those stanzas, and realized they don’t have to have periods at the end of every sentence, that a stanza can actually just have a period at the end of the stanza. It’s the breaks that make the difference, and those line breaks just give you so much of the comprehension behind it. And that’s where you add your-- they were trying to add their rhyming at the end of those long lines that made no sense whatsoever. So, it was a really helpful lesson. (Barb, personal communication, June 13, 2017)

**Partnership.** Teachers discussed lessons that were successful included

partnership support. Teachers stressed partnership between students and teachers created a community within the classroom. Teachers shared how communities developed within the classroom and with parents.

Anna paired her students with partners where they talked about and analyzed poetry. Anna stated that partnership work built community in the classroom, and the entire learning environment changed as a result. The atmosphere of a community bonded the teachers and students together.

I broke them into partnership work where they were analyzing poetry together and talking about it together. It creates classroom community for one, so the entire environment in the room is different. And that is going back to community as well, too, that it is wonderful schools start to see them helping each other.

Because you are going to get that community and everybody is good at something. And you get the chance to help someone, and I think that is where we are all sort of bonded. (Anna, personal communication, June 12, 2017)

Jane shared how her students showed support for one another following a volcano presentation project in response to Anna's comment on the community atmosphere.

Like when we all came out to see your volcano eruptions. They did it last year and not to say some of them are not friends but not all of them hang out with the same people but they were all cheering for each other. (Jane, personal communication, June 12, 2017)

Lisa held the position that students and teacher relationships were integral to success. She expressed that it mattered to the students that they felt loved and cared for by their teacher. The relationship, according to Lisa, was not limited to the classroom. It extended to recess as well. Lisa felt the community culture was evident in the way she

and her students ran their weekly meeting to focus on concerns and celebrate accomplishments.

Relationships with students – Respect between teacher and students is integral for success. Students need to know they are loved and their best interest is always first priority. Communication through dialogue journals and interaction/ involvement at recess are effective in getting to know my students. Students take a student survey every six week and I reflect on their feedback. We also have a student-run weekly class meeting to celebrate accomplishments and problem solve student concerns. (Lisa, personal communication, June 13, 2017)

Penny stated that a partner-share activity had a positive impact on an inference lesson she conducted. Both Bonnie and Barb used partnership activities in solving word problems and felt that it was important for students to be able to work in teams even though Barb did find it difficult to get her students to do that at times.

And I saw when they did partner-share, it was a tremendously positive lesson because they really got the inferences. And they had so much fun searching.

They kept looking through their 20 books or so in their basket saying that, “There has to be character feelings in here.” (Penny, personal communication, June 13, 2017)

“We did word problems, and they worked in partners” (Bonnie personal communication, June 13, 2017). “They also need to be able to work, though, in partnerships/teams. It is so hard to get them to do that” (Barb, personal communication, June 13, 2017).

Rose took on a very personal approach with her families which extended her partnership and solidified her relationship to the community. She communicated that she was accessible and could be reached beyond the classroom. She created a sense of

community in and out of her classroom.

Classroom management-high/consistent expectations, fair to all, and I give my cell number to all families so we do communicate daily if needed. Strong classroom community amongst the students -- We are a team, We help each other if needed so they can make their “grade level” age group, their generation as strong as possible for when then are older. We all learn together, grow together, and have to respect each other. Relationships with my students and their families that was not based just on academics -- I attended a sporting/practice/art/piano . . . Whatever they were interested in outside of school I attended 1 activity for each student that it applied to. I share about my family, my kids . . . use stories that relate to them daily. Every morning I greet them and talk to them about how they are, what they did, what they ate that morning. At lunch . . . it is very rare that I ever sit down. I find that recess and lunch is the best time to talk with and just chat with the students, so I am always rotating to my three different tables.

(Rose, personal communication, June 13, 2017)

Rose concluded that peer relationships and teacher-student relationships had to be solid. Her students who struggled the most relied on this support not only for their personal goals but especially when they became aware that they were progressing at a slower pace than the rest of the class.

With their own personal goals, the kids know when they are progressing at a slower rate. This is when the relationship between peers/teacher has to be strong so that those students can continue to be built up even when they are struggling.

(Rose, personal communication, June 13, 2017)

**Students teaching teacher.** The teachers discussed how they learned from their

students or had to adjust their lesson plans based on student feedback or progress.

Teachers adapted their behaviors to better accommodate student needs.

Mary recognized her students learned differently and made plans based on their needs.

So, 2nd grade is supposed to start at a J. But I have kids who come in at an E in the 1st grade and I have kids come higher than a 2nd-grade level. The kids are not the same, they do not need the same thing. And if I am spending all this time trying to force kids to do something they are not ready for or my high kids got it a long time ago what is the point? The point is to study your kids and make plans based on what they need. (Mary personal communication, June 12, 2017)

Anna focused on the goals the students were working towards and shared how her students were involved in the process of discussing their focus or goals.

We look at the goal / what is their goal? What are we trying to achieve? How are we going to know if we are successful? They are involved in that. They are part of making strategies. How the unit's working, tracking and determining what is working for us as a class and what is not so successful? What could we change? So, they are involved in that process. (Anna, personal communication, June 12, 2017)

Anna wanted her students to articulate how they were going to achieve their goals. Additionally, her students shared with her what strategies were working best for them individually and as a class.

The classroom community for one is involved in telling me and each other where they are heading with their goals. Just the entire environment in the room changes. They make sure I am tracking their goals along with them. It is serving



them well. (Anna, personal communication, June 12, 2017)

Lisa developed a strong rapport with her students through the content of their journals. She emphasized that when her students discovered how much she cared for them, that made a strong difference in their opening up to share their journal. This rapport extended at recess, and the feedback she received from their 6-week survey was indicative of mutual respect. The weekly meeting held also served as a means for her to gain more insight into how she could serve her students better. Lisa reported through her students' voices, there existed a sense of shared responsibility that benefited the overall classroom environment.

My relationships with my students is strong. As I mentioned previously, the mutual respect between the teacher and students is integral for success. Students need to know they are loved and their best interest is always first priority. I learn so much from their dialogue journals I am so grateful in getting to know my students that way. Their voice matter to me . . . It makes me do the right thing every day. (Lisa, personal communication, June 12, 2017)

Susie shared how brutally honest her students were. She accepted their feedback to better prepare her delivery of instruction.

My students tell me what is working and what is not. That used to hurt my feelings but not anymore. When they give me feedback, I take that into consideration when I plan my lessons. Also, the students know why what they are learning is important. Very impressive. (Susie, personal communication, June 12, 2017)

Teacher perceptions of teaching and learning incorporated the sharing of successful lessons in their classroom. Teachers used the research-based strategies and

activities in their classroom that were effective to teach their students to improve the learning process. The teachers engaged students in improving the classroom learning system. The data showed that teachers wanted students to manage their learning. The participants shared and cited the teaching strategies that worked best in their class for their students.

### **Teacher perceptions of systems approach to school improvement.**

2. What are teachers' knowledge, understanding, and perceptions about a systems approach to school improvement?

### **Reflection**

The most important aspect of the systems approach according to the teachers is the reflection piece. Teachers felt that reflecting not only helped them but also benefited the students in order to make an improvement. The alignment of instructional strategies and measurement of student learning were also incorporated in teacher reflections in relation to the systems approach. The teachers took the success or failure of their students personally. They were not the only ones doing the reflections. The students were involved in the why and what they were learning in order to apply strategies and goals to be successful. The teachers no longer had to work in isolation. They were able to have cross grade level reflections as a PLC to make better decisions for students as they studied their class performance data. Teachers felt that it not only unified a grade level but the entire school.

**PDSA.** The teachers pointed out that the PDSA improvement cycle guided the systematic improvement of any function in their classroom. Teachers reflected on the Do part along with the students to decide what strategies would be used to achieve a goal. Additionally, the teachers along with the students reflected on the results in the Study to

see how well the students learned the planned target.

Reflection. Everybody can learn. Students know why and what they are learning and then they are able to work with strategies to find the goals to reflect. I feel like reflection as a skill is an end piece. It happens before during and afterward but it's the point where they use what they learned but they evaluate – they let it set in. Did I attain that goal or am I not there yet/ If they are not reflecting, they might think that they have it but they don't understand why reading is so difficult? It is because you did not stop and reflect. You do not like to read because you are not reading accurately and if you are not reading accurately, you are not really reading a story that's already there. I would not like to read either because I am making different words than what is in front of me, I am not going to like to read because the story is not making sense. If you step back and reflect then you can fill those gaps and further them – their education in that reflection to better understand that gap. Their knowledge levels. (Jane, personal communication, June 12, 2017)

Mary felt that teachers were not isolated; the systems approach fostered grade level collaboration focusing on data.

Also building on the reflection part of it is the idea I can isolate a teacher in a classroom teaching on her own. It allows for grade level conversations where you can come back on your own with your data as a group and compare data. You can say your class is at a 70% and I cannot get them to move on from there. Or yours is at 90%. How did you do that? What strategies did you use? Also, it helps you – not only is it individual as a teacher or as a grade level but as a school like the cross-grade level part. Rather at the cross-level reflection or conversation

it picks up across the school. (Mary, personal communication, June 12, 2017)

Lisa said students were happy to come to school and their accomplishments were celebrated. Additionally, the class meetings were used to address student concerns. The Plus/Delta system was used as a reflective feedback tool.

When students have a voice and are tracking, reflecting and celebrating growth, they are happy about coming to school. Instead of creating a test-taker for today, this creates successful leaders for tomorrow. A systems approach involves students having a voice to share what helps their learning, and involves the most beneficial learning environment. We complete Plus/ Deltas as a class to reflect on procedures and events so we can move forward accordingly. (Lisa, personal communication, June 12, 2017)

Beth replied to Lisa's comments and firmly believed in setting the bar, reflecting, and deciding whether or not something was working. If something was not working, it was tweaked or changed, because the class composition changed yearly.

I think too, reflecting what is working – really having to work at – what is working, what do you need to change? And if a person changes all the time then . . . every year is different . . . so what worked this year may now work next year. Every year is different, students are different. You are going to have to tweak it and change it up. And I think it is just that reflection process like you were saying. You have to. Sometimes it is hard. We constantly have to set the bar, step back, reflect, and then decide. We have to think about, “Is this working?” (Beth, personal communication, June 12, 2017)

Mary said a systems approach forced her to use data to reflect and guided her instruction. She recognized that the students could not do it on their own. Mary shared

that at the beginning use of PDSA, students were not really reflective and were giving vague responses when they were looking at what did not work. She not only saw the paradigm shift over time in her class but at the school level as well.

You reflect on what did and didn't work and you keep going. The struggles you can come up with is your gap does not naturally flow with what you are doing. And it does take up a lot of time because the kids cannot do it on their own and it is constantly morphing and trying to become natural but in doing what I think about a systems approach, it automatically makes me think of a data datum or whatever you want to call it. It forces you to look at it, know whether I want to or not. It is not just a number you put into a spreadsheet and send off; you use the data to reflect and drive your instruction. And I even think that PDSA forces you to be reflective, and it forces them to be reflective. The biggest thing for me is that it forces me to look, and it forces me to reflect, and it forces me to know what we are doing well at and what we are not. The kids reflect on it. Your grade level reflects on it. Your school reflects on it. It just forces that reflection to use them the way it is supposed to be used to drive your instruction more. Yes. Yes, ideally you would not want to think that you are always doing it, but I have not always done it that way. And this has forced me to do that. And it slowly forced us at the school, but then I wasn't the only one when we started PDSA getting-- just don't go to the bathroom during a test, or don't talk during a test, or we were all getting those kinds of answers from kids and that kind of reflection and that's just been----school wide reflection and change over time like a paradigm shift over time. This just made everything more meaningful, but you got to be willing to work hard for it. (Mary, personal communication, June 12, 2017)

Participants in the second focus group shared how the systems approach has helped them and their students reflect on establishing a continual improving classroom learning system. Cindy felt responsible and took the success or failure of her students personally. She focused heavily on what she could do differently to teach and reach her students. A systems approach made her reflect on her practice.

I mean, me, as a teacher, I'm reflecting on -- what worked . . . if the majority of the class is not getting what I did, whose fault was that? My fault, not their fault. So, I need to take a step back and think about what I need to do differently to teach them, so there's that reflecting piece for me. (Cindy, personal communication, June 13, 2017)

Bonnie saw the beginning of a teacher-student partnership develop. The class began to reflect and had conversations on their overall performance. The teacher reflected on what she needed to do for her students to be successful.

And then the kids start to reflect too, because you have a graph on the wall and we do a formative or summative and we graph the results and we talk about it. And they're saying, "Man!", or we will-- if it is a formative, I will say, "Wow. We have 75% in here. What do you think we can do? What do you think went wrong? What do you--?" and so we discuss with the kids and they talk to us about what they felt was difficult for them or what wasn't clear enough. And then we just re-teach, maybe add a new strategy in there and tweak the lesson and then give another formative and see if there's more understanding. But you have to reflect as a teacher, as a student. If it is the whole class, obviously, I need to reflect and change my lesson. If it is just a few kids, then I need to work with those kids and figure out what works for them so that they think they can be

successful on that concept. (Bonnie, personal communication, June 13, 2017)

Penny believed that teachers have always done PDSA but may not have recognized it as that. She thinks that the favorable results of student growth were attributed to the teachers who had used the PDSA learning cycles. She believed the systems approach self-reflection aspect produced an effective classroom management system.

We have always done PDSA, we just never called it that. I think any effective teacher who gets the results that are favorable to growth in the student and for the school has always done PDSA. It is just now it has a formal name and it is a cycle, but we have always done it. We have to plan. We have to tell the children what our objective is. We may not have called it objective. We may not have posted it on the board many years ago, now we do, but we have done that entire cycle. As long as I'm teaching, we have always done PDSA. Now it has formal names but teaching the kids, that cycle and helping them to be self-reflective as well is a big key. Even at the age of five and six, they can do that. We have self-reflection time. We talk about what a reflection is and if we are self-reflecting on whether we have learned this and if we have not, why not. If we did, what strategies worked. All of that is part of a learning cycle and it makes for a very effective classroom management and productivity. (Penny, personal communication, June 13, 2017)

In a systems approach, according to Cindy, teachers learned and benefited from knowing the curriculum of other grade levels. There was collaboration and a sense of community within teams. All teachers differentiated by ability grouping. The teachers relied on each other's strength in a subject area to ensure all students were at or above

grade level.

Well, we used to be better at this, and Bonnie and I are on a team that are making some changes for next year to bring it back, but we used to do something called round table time, where, as grade levels, we would have a formative assessment at the beginning of a unit, look at that data, and then create differentiated groups. So, if I have my lower kids that really don't know how to tell time to even a half hour like they were supposed to from first grade and they are second graders, maybe Penny's going to work with that group because she is really good at working with those lower kids. And then my AIG teacher might be pulling those kids that already know how to tell to five minutes, and maybe she is going to do elapsed time to get them ready for third grade. And it is knowing that, isn't it funny, that [laughter] we know the curriculum. You cannot just know your own grade level. You need to know, at least, the grade level above and below, but a lot of us know K-5. But it is that differentiating to know how to meet the needs of the kids, and then teach, teach, teach, and then . . . collecting that data, and meet as a team. It is not just Bonnie's kids. They are our kids, and we want all of our kids to be at or above grade level. So, then we have that data. We look at it, and again, if 80% or more of those kids have met that goal, then we have done a good job of teaching. If they have not, then that is a reflection on what we have done or what we have not done, and we need to take a step back and think about what we need to do to fix that. (Cindy, personal communication, June 13, 2017)

Bonnie said her students knew where they were and kept up with their growth and knew what to do to meet their goals. Students tracked their individual data in a goal notebook, and the class was able to see their collective growth on the wall. Bonnie and



her students discussed the data, and the students reflected on ways to improve.

Yes, my students, in their math notebooks, have their own individual data sheet where they graph their formative and summative assessments, and they set a goal. So, let's say their goal is an 85%, if they do not meet their goal, underneath, they say where did things-- let me go back and look at my test. So, they take their test or their formative and they go through it. And they look at the problems they missed, and they write down what type of problems they are. Maybe word problems, maybe addition, subtraction, multiplication, and then they write down a strategy that maybe they could use next time, and we meet together and talk about it. I don't just let them go on their own, but they reflect on their own data. So, we have group data on the wall. But then they each have their own individual data that they reflect on and we discuss together to talk about the next time they take this formative, because they probably will take it again, maybe in a different way, that the strategy they could use that maybe they didn't use this time or what happened-- did they skip a problem? Did they figure out the problem right but bubble the wrong answer. Things like that are easy fixes if you just teach them a little strategy to help them. So, they reflect on their own data, individually.

(Bonnie, personal communication, June 13, 2017)

In Penny's class, students had an understanding of their purpose for learning even in kindergarten. They had their own system at their developmental level to recognize if their goals were met. Penny did not find the goal notebook beneficial to her kindergarten students because it was hard for them to manage.

Even though my students are only five and six. They understand what an objective is. They understand what a goal is. And [laughter] that took a lot of

work to get them to understand it. But it really paid off. And there was such apprehension throughout the staff adopting this because putting another new thing in a system that's already overwhelmed with the things we have to do, it's hard and sometimes you do not want to adopt anything new. But I had to do it, so I did it. And it did pay off in that the kids understand. They have a purpose. They know where they have to go. And they have responsibility to get there. It is not just me doing it. Well, at the end of the year, after teaching them about we collect the data, they know what data is. They know what the collection looks like and how we display it. Goal notebooks do not work for kindergarten. I do have to say that. It is really hard because they cannot maintain it themselves. That part of it is not fully understood. And I have done it different ways for three years and it still is not the right way. It ends up being more teacher management. And that is just another thing on our plates. But they do understand that they are meeting their goals. And at the end of the year, the class mom collected facts about Mrs. . . . Sorry [laughter], and it said, "She is great because she helped us learn our objectives and meet our goals, not just me." So, the child knew that the whole class was able to meet goals. And we did celebrate it on a regular basis that even if it was just in the end of the week, like, "Wow, who understood this? Just let us reflect for a minute." And they go like this, real serious, and close their eyes. "Okay, remember we did this? We learned this new objective in math. How many people really feel that they understood it?" And they show with their fingers our little symbols whether they thought that they understood it. What if they need more work on it? And just the fact that they feel that they can meet a goal, and they take that ownership, or they feel that they need extra work, it is

just-- I do not even know if I am on the question now but [laughter] they understand data. They understand the importance of having that reflection piece even at the age of five, to say, "I can graph this, did I meet it?" (Penny, personal communication, June 13, 2017)

Teachers were on the same page to address the needs of diverse learners. Penny believed because she reflected more, she met the needs of her diverse learners better. She pointed out that the consistency of the use of a systems approach across the grade levels was beneficial because it unified everyone.

That's a word I was thinking of because of my reflection piece, personally, I feel I am meeting the needs of my diversified learners a lot better because I am reflecting a lot more because of the continual assessment. And we've done that before, but the reflection piece probably was not as strong and now it is. And the consistency across the grade levels, and among the grade level itself, is a real benefit to that systems approach because we're all on the same page. (Penny, personal communication, June 13, 2017)

Penny concluded that a systems approach supported independent learning and made her a better teacher. Independence was essential to Penny.

Initially, I felt it did not change too much, what I had done as a teacher. The reflection piece did increase tremendously, but as far as the-- I'm a mother of five, so independence is really important just to ease my burden at home. And if they learn to hang their coat in kindergarten, they are going to do it at the house. So, when I'm in my classroom, I foster that independence. And I love that they can become the teacher. So now, the display of the objectives is different for me, the data collection. But the fact that-- we use the word "schema" in my classroom a

lot. They love to build my schema, which is really adorable, when they teach me something because they reflected on what they did the day before. And then they went home and built their schema, that is what they call it. They come in and I'll say, "Okay, anybody smarter for schema build-- builders last night?" And they will come in, and they will teach me something. And then they will say, "Did we build your schema [laughter]?" which is just adorable. In that regard, it is really just made me a better teacher because I can reflect, and I can be a learner more often. (Penny, personal communication, June 13, 2017)

Cindy holds the position that a systems approach allowed for a clear direction of what will be learned and engaged the students on how to get there. With the reflection component, students reflected on the results.

The data was important. Having the objectives available for the children to see for them to understand what they are going to learn today, how they are going to get there, that was the important part. And then the reflection piece, did we get there? What is the data? So those were the important aspects of the whole thing. (Cindy, personal communication, June 13, 2017)

Rose stated that her students knew they could learn. They were knowledgeable about what worked for them. Students engaged in their improvement process and the why of learning.

Everyone can and will learn. Students reflect on what they believe is working, what is not. Having the chance to provide feedback about what is and what can help them. The student knows why what they are learning is important. (Rose, personal communication, June 13, 2017)

**Individualized learning.** Teachers discussed how teaching is individualized to

students, rather than generalized. Mary stated that teaching students individually is a constantly changing process, because her students do not all read at the same reading level. In order to meet their individual needs, she divided them into differentiated groups based on the results of the reading assessment. She did the same thing in math by selecting a difficult skill she knew her students would struggle with and provided the necessary individualized support to meet their needs.

The kids do not read at the same level so I started breaking our kids into accuracy groups, comprehension groups, every once in a while, a fluency group.

Sometimes an expanding vocabulary group for those kids who can almost read everything but still need support I have to stop on the word they do not know and go from there. Math is a little easier to do but I do agree that most of the time it means going through whatever unit it is and picking out the hardest skill for that unit and focusing on that. The point is I study my kids and make plans based on how they learn individually. So, it has been a constantly changing process.

(Mary, personal communication, June 12, 2017)

Susie remarked that it could be discouraging for her students when the students fell behind on a skill and were not successful. She reached out to them in small groups to meet their needs and provided an alternate way to show their understanding.

I think that it can be discouraging when students are behind on a skill you are working on and they are not' successful with it really pulls them out. I have one who's a D when the others are J's when it comes to reading. So, when that happens, instead of making him write like everybody else, because his comprehension is different, I let him talk to me about it as long as he tells me the right answer, I do not have to make him write. I found it was frustrating him to

write about it so I adjusted it for those who need that. (Susie, personal communication, June 12, 2017)

Beth indicated that personalizing student academic goals gave them a chance to be successful. “You have to find some way to make those kids successful and that is where like, making academic goals are personal goals. It gives them a chance to make them successful. You are making them successful” (Beth, personal communication, June 12, 2017).

I could tell that 15/18 students had mastered this concept after day 2. I could tell on day 3 when we started our math block that most of the students were bored with this standard . . . they already mastered it and were wanting a challenge. I went ahead and taught those students how to add any 2 digits to a 2-digit number and they were so engaged and loved the challenge. Of course, I continued working with the other students on the area they were struggling. (Rose, personal communication, June 13, 2017).

### **Student Ownership**

The study showed student ownership as one of the most prominent themes. Teachers discussed students taking ownership of their work and progress. Students taking ownership was identified when teachers talked about how students were reflecting on their progress, their growth, and how they were applying strategies to solve problems. Several participants provided and shared their views on student ownership.

Lisa knew her lesson was effective because she engaged her students in understanding how to apply strategies to demonstrate their learning through their work when solving problems. Her students used the strategies that worked best for them to address common denominators using the algorithm. “We supported our thinking by

explaining our reasoning of the importance of common denominators, and checked our work with an algorithm. Students used the strategy that worked best for them, enjoyed the lesson, and proved it was effective” (Lisa, personal communication, June 12, 2017).

Lisa pointed out that when goals were met, the students showed pride in not only their work but also that of their classmates. Being proficient was not good enough; they pulled together so the whole group could grow. According to Lisa, the students who were below grade level were encouraged because they realized that showing growth was more important than a test score. Lisa admitted that a systems approach required her to give up some of her control to allow her students a voice to express what is working or not for them.

A systems approach has led to student empowerment. They are more invested in their learning and hold each other accountable. Students are proud of their growth, but even more impressive is that they are prouder when their partner or classmate makes their goal. They are no longer satisfied and stifled when they are proficient, but use that as ammunition to make sure EVERY student reaches proficiency and grows. Students understand what proficient means and the purpose behind every student growing, no matter what level they are on and how long it takes. Students working below grade level are less likely to “tune out” and give in because they realize that growth is more important than reaching a certain reading level or test score. A systems approach also requires me to give up some of the “control” as it allows students a voice to respectfully share their thoughts when they find something is not working for their learning and give solutions. (Lisa, personal communication, June 12, 2017)

Lisa indicated that a systems approach led her students to be empowered while

engaging them in investing in their learning and holding each other accountable. Lisa stated that her students were empowered and were accountable as leaders for their learning. Her students understood the ramification their overall performance had at the school. Through her students' daily reflections and feedback, her lessons became more efficient and purposeful.

Students are empowered as leaders of their learning; students are held accountable for their learning, learning as a grade level and as a school as they are well aware of how their individual growth helps the school as a whole. Frequent reflection based on feedback causes instruction to be more purposeful and effective. (Lisa, personal communication, June 12, 2017)

She concluded on a personal note that a systems approach makes sense as she reflected back when she was a student who needed a purpose to grow. She recalled feeling uncomfortable in a high school class simply because the teacher had her sit somewhere that impeded her learning. In her classroom, she recalled the things that made her uncomfortable in order to provide a more enjoyable experience for her students.

A systems approach just makes sense. I needed leadership roles and a purpose to grow when I was a student. I enjoyed school because I had teachers that saw my full potential and did all they could to make sure I reached my goals. I also had a teacher in high school that made us sit a certain way that was very uncomfortable for me. Very little learning took place because I was concentrating on keeping my feet on the floor. I used those experiences to make sure students are comfortable and feel safe so they can use their brain power on learning to the best of their ability. When students have a voice and are tracking, reflecting and celebrating growth, they are happy about coming to school. Instead of creating a



test-taker for today, this creates successful leaders for tomorrow. (Lisa, personal communication, June 12, 2017)

Mary recognized in the mid-year assessment that her students were not meeting the criteria in a given learning cycle. Mary stressed the fact that her students documented their data in a leadership notebook. The data provided the students with documentation of a starting point of their results and continued to show a trend of growth or lack of growth in a graph format. The plus delta took a long time for Mary's students. However, she allowed her students to write a sentence with a plan for improvement for the next learning cycle. Students were then able to identify the specific strategy they will use or not.

We did notice on our mid-year that we were not quite there yet so it was not a very long cycle but we noticed whenever you go across that hundred we are not there yet so we kind of did a short cycle on that. Our reading we do every three weeks. This is just an example of the math page the kids have in their leadership notebook. Like what they are starting at and where they go to and they graph it along the way to see if they get better or not and then we used to have them do "plus deltas" at the bottom. [laughter by group] . . . And then it was harder for our kids. It was taking up a lot of time at the end of the year so we changed it to putting a sentence at the bottom that says, "Next I will . . ." and so if they're doing well at it, they can say whatever strategies they will continue to do and if not, they will say "I will use place value check next time" or "I will organize my thinking in some way." (Mary, personal communication, June 12, 2017)

Mary stated that it was her hope that through the various strategies she was teaching her students, they would get to the same end by truly finding and choosing the

strategies that worked best for a given task by establishing ownership. Mary felt that it was important for her to have her students understand which strategy to use for an assessment.

So, to add on to the learning part of it, it is your kids taking ownership.

Hopefully, we are teaching these various strategies and like with everything, we are teaching them lots of ways they can get to the same end and hopefully in that learning, part of the process is finding the ones that work for them and being able to choose a strategy that is sufficient for them; a strategy that works for them and even so far hopefully to go to what it is that doesn't work for them and which ones they are trying to get. Ideally I want my kids to know this is a strategy I can use on an assessment because I am really good at it. This is the strategy on some of the explore problems that may happen when I am working with my partner that I have almost but I am not there yet. Ideally that is what you want kids to do when they are learning. You want them to take ownership of that and knowing what works for them. (Mary, personal communication, June 12, 2017)

Mary indicated that student ownership included the students setting their personal goals by recognizing what was getting in the way of their learning. She felt that setting clear directions and expectations for work completion, having a system for turning in work for the overall class routine, and knowing how to use graphic organizers all helped students know where they were.

So, meeting the kids needs in class, them setting their own personal goals as well, sometimes they never make their goals. Their behavior is getting in the way of their learning so setting up some kind of approach for what it is the kids – part of this is from our PDSA and part is from the “Leader in me” – setting goals but

sometimes setting goals is what's getting in the way. Sometimes it helps you set goals for work completion. It might be some of their own goals are to use graphic organizers. (Mary, personal communication, June 12, 2017)

Mary emphasized that any of her students could identify their performance level in mClass and articulate where they would like to be or should be. Her students knew what made a good reader. Her students knew what it meant to read with accuracy. Her students set their goals to get there.

They know exactly where they are. You can talk to any one of my kids and they will say I started at this level and I am going to this level. This is how I am getting there. My kids know what it means to be comprehensive as a reader, accurate as a reader, they just know exactly what their goals are. (Mary, personal communication, June 12, 2017)

Susie saw that her students were molding themselves when taking ownership of their learning. Susie showed that her students could recognize what they were capable of achieving by using various strategies. Susie shared that her students began to recognize when others used certain strategies that worked for them and not for everyone else.

They are taking their learning into their own hands. They get to see what they can do because they might do a different strategy than the person beside of them to . . . get to see how they can mold themselves . . . see how their peers are growing as a class together. (Susie, personal communication, June 12, 2017)

Susie knew her students could learn and always reflected on what worked or did not work. She resented the idea that teachers “knew everything,” while the students sat and received information and memorized the content.

Everyone can and will learn. Students reflect on what they believe what is

working and what is not. Giving the chance to provide feedback. Also the student knows why what they are learning is important. It goes against the idea when I was a kid that the teacher knows everything and the student just sits and follows directions. And memorize most of the content and be responsible for what they are actually learning. Definitely when I was a kid, it was all memorizing, the teacher knows it all and you do what the teacher says. Very impersonal. (Susie, personal communication, June 12, 2017)

Susie (personal communication, June 12, 2017) concluded by saying that her students were empowered to track their progress and growth: “It empowers the students more. They are able to track their own progress and see their own growth.”

Cindy, on the other hand, shared a GRR technique through explicit modeling. Cindy showed that by her students seeing her demonstrate an example and placing it on anchor charts, students and their partners began modeling for those who struggled. In her view, that was ownership.

I found what’s most effective is the GRR. I need to model it, and I need to be explicit about what it is that I want them to do, and then I guide them. It is all part of our mini-lesson. I am guiding them as they are practicing it with their partnerships, and then I set them free to practice it independently, and I am coaching them in small groups or independently. And then we make a visual with our anchor charts or fish bowling. I will have partners come up and model again for other kids that are struggling. (Cindy, personal communication, June 13, 2017)

**Teaching goals.** The teachers along with their students developed mission statements. Teachers discussed their teaching goals by including the students in creating

a class mission statement. The mission statement was reviewed weekly to ensure that the class was on target towards meeting their personal goals with the end in mind.

We have a mission statement I call a “class promise.” At the beginning of the year, we all come up with it together and we sign the class promise. During our weekly class meeting, those are led by our students, my students lead that and the first thing, my students have a new book and they rotate and everybody gets a chance to lead and the first thing that we do at that meeting is they review the class promise and that is the first thing once a week. We make sure we go back to that class promise. (Anna, personal communication, June 12, 2017)

**CCI.** According to the teachers, CCI created accountability for the students and teachers. The grade level used an inverted triangle to display the school-wide proficiency level of students. The students, in turn, used that information to create their personal goals. The teachers reviewed the goals with the students in order for them to make plans to reach the goals at the end of the year.

For me, through the use of a systems approach and CCI, accountability is our school wide goals displayed in an inverted triangle that says we are proficient at 60% and we need to be proficient at 80% by the end of the year. This is what the grade level focuses on than the kids create their individual goals. I tell my class this is where we are now and show them where we need to be at the end of the year. So, let us review our individual goals so we know how to reach our goals by the end of the year. (Mary, personal communication, June 12, 2017)

The teachers used the PDSA cycles to help students reflect, set learning goals, evaluate their results, and decide if any adjustment was needed for the next cycle of learning. The teachers wanted the students to imagine what would happen at the end.

The skills that were not mastered were revisited, and the results were revisited to see if the goals were met.

Our PDSA board, displays our math results. It is teaching them the concept of having the end in mind. We break the results down into gaps or what we foresee as being gaps mastery. So, our PDSA display features the breaking down of the little components we need to accomplish by mid-year. We conference in secret and see where we are. We do have our school wide goals to refer back to and see where we will be by the end of the year. (Mary, personal communication, June 12, 2017)

The teachers took time to review the learning targets which established the focus of the lesson. The class mission statement was referred to in order to help guide the class's discussion on what worked or did not work using the data.

We start with the learning targets-what the students need to know we begin by introducing the objectives in the subject area and make it visual in the classroom so students have an end in mind and see the connectedness as the year progresses. Then write the class mission statement together in the first week of school, the class creates a mission statement and signs it to show they are a valuable asset to our learning community. The class revisits the mission statement during the weekly class meetings to discuss what is going well and what might need to be improved. We use the Plan, Do, Study, Act cycle for students to give feedback and reflect on what is best for their learning based on their current data. (Lisa, personal communication, June 12, 2017)

The teachers developed systems to monitor progress, engaging students in evaluating and improving teaching and learning. The teachers felt that they all worked

together with the students. All teachers took responsibility for ensuring that their top priority was the students. The teachers shared that with a mission statement referred to as promise statement, they set goals to know where they were going and analyzed to determine if those goals were met. Students were given a voice on how they learned; they managed and developed some control of their environment. Teachers provided them with systems for everything that was done in the classroom. The teachers provided the content for learning. The students were in charge of their data and knew what the data meant; they knew how to help each other as a group and individually. Their data were recorded in their data notebook; parents were aware, the community was aware, and everything was transparent across the board.

Anna shared that CCI provided a shared responsibility and accountability in the school. She believed that the success of her students was a collective effort that involved everyone from all grades starting with kindergarten as a foundation followed by subsequent grade levels.

The success of our students is a shared responsibility. I lead my kids, I present them the curriculum but their success started in kindergarten, then first, second, and then third. That is what accountability is, that is what CCI does. We are all accountable for our students. (Anna, personal communication, June 12, 2017)

Mary indicated that the support of her principal was instrumental. The principal held her and the staff accountable for the success and/or failure of all students. She shared that with CCI, there was a system and structure in place not only for herself but also for the students.

With CCI you have a system in place, you have structure not just in your class but the grade level. I have my routine; the kids have their routine . . . I think working

for (principal's name used) makes the biggest difference . . . I mean she is the queen of systems and you find yourself failing or succeeding you have to ask what is your system? What system do you have in place? It holds you accountable. Your students accountable. (Mary, personal communication, June 12, 2017)

Jane pointed out that the class mission statement set the tone for the entire year for what the class was working towards. She mentioned that her students wrote daily statements of what they were going to focus on as their accountability and continuous improvement goals. Jane stated that she student taught at the school where she currently served and only knew a systems approach.

We have "Dailies." Daily they have their statements what they are going to do that day and what their outcome is going to be. That is their daily accountability, that is their continuous improvement. For me, I'm constantly going back to the end. That is how I like to learn. I like to know what's happening next, what is my goal in this? So, we would constantly say, "We are doing poetry, this is why we are doing this, this is what we are working towards." Our class mission statement pulls it all together in what we are going to do the entire year. At first, I found they did not quite understand. They had a hard time seeing that vision. Class meeting after class meeting, they eventually saw it. They do not know the end as well as the teacher does because I know what is going to happen at the end of the year. It became clearer as the year went on. CCI helps you see what growth an individual kid has shown all year. It is hard but so worth it. This is where I student taught and a systems approach is all I know. (Jane, personal communication, June 12, 2017)



Susie expressed wanting to bring her son to her school because she wanted him to be exposed to the CCI approach.

As a parent, my son goes to a different school but I'm bringing him here because of CCI. There is so much here and I want him to speak the language and be accountable. I am impressed by the students. (Susie, personal communication, June 12, 2017)

Teachers noted that data served as evidence for accountability for teachers and students. The data served as evidence of learning results in the classroom.

I think the hard data is an accountability piece as well. We all hold one another accountable and support each other as colleagues too. If I show up to the meeting and I do not have data on my kids, or I am not prepared to teach my round table lesson and I am teaching your kids, then I am letting everybody down. I cannot take the easy way out. (Cindy, personal communication, June 13, 2017)

Bonnie stated that as a team, they would delve deeper into the data. Their collaborative effort as a grade-level year will ensure that everyone is accountable and consistent as a team for the upcoming year.

I agree with the data. I am hoping that we are going to dig a little deeper into the data this year, because we are looking at data in our own classrooms, but I think that we need to look at it a little deeper, maybe across grade levels. But yes, data, accountability, making sure everybody is doing what they are supposed to be doing, so that we can be consistent together as a team. And like you said, collaboration-- I do not think you could do it on your own. It just can't be done on your own. If you want to be successful, you need to do it as a team. (Bonnie, personal communication, June 13, 2017)

Teacher perceptions of a systems approach included a reflection component which not only helped them but also benefited the students. The alignment of instructional strategies and measurement of student learning were incorporated in teacher reflections in relation to the systems approach. The teachers involved the students in the why and what they were learning in order to apply strategies and goals to be successful. The teachers worked collaboratively in their PLCs to make better decisions for students as they studied their class performance data.

### **Integrating teaching with a systems approach to school improvement.**

3. How does what teachers know and understand about teaching and learning fit with the meaning they have constructed and their knowledge, understanding, and perceptions about a systems approach to school improvement?

### **Growth Focused**

Teachers discussed how they focused on student growth, rather than student achievement.

Lisa expressed that a systems approach focused on learning and growth which allowed her special needs students to grow at their level. “Students with special needs used to remain frustrated. A systems approach is focused on growth and learning, which involves every student. We often synergized to use individual strengths to grow students in needed areas” (Lisa, personal communication, June 12, 2017). Mary encouraged her students to focus on their private goals in their personal notebook.

The school wide goals is for students to be at 80% proficiency but some of those kids, may never make it to 80%. If they are to start the year at a J and they are an E and they have to be an M at the end of the year, we are battling for that growth.

My kids, in their personal notebooks, focus on growth. That is why we have them. Because 80 % may not be every students' reality. We are talking about having our public goals versus our private goals I would rather have them focus on their private growth versus our school wide proficiency and where we really are, just to kind of take that . . . pressure off of them. We are trying to get the right stuff to help us grow. (Mary, personal communication, June 12, 2017)

Cindy removed her PDSA board and replaced it instead with a goal/data notebook.

I mean, data is important but you also have to be able to focus on what is important in the classroom and have time for that. So, we did take a step back and for reading, we do not have a PDSA board anymore, but we have goal/data notebooks in our room. So that is how, I connect with my students and set goals. So, the little guy, who asked how do I get past the D? Well he finally got to the E, and the big buffer that prevented him from the F was the writing component in mClass. You have to do written comprehension and writing is not his strong point. So, when we were setting the goal of F, the strategy to meet that goal was to focus on the writing part and going back into the text, like you said earlier, to support the thinking and new modeling and guiding him to do that and giving him strategies. We made a little chart, a little anchor chart we glued in his notebook that he could look at with some strategies just to help him. I coached the whole class; I looked at the data with the kids. They set their goals and then we use the data to determine what they needed to do to meet their goals, specifically. (Cindy, personal communication, June 13, 2017)

**Bigger picture.** Teachers discussed how they and their students were a part of

the bigger picture of the school. They were a part of the decision-making process within their team. Everyone's input was valued.

We are not all sitting in our classrooms all by ourselves making it all work. We are constantly working together seeing what teacher on a grade level is doing, what each grade level is doing, it goes together. They go from grade to grade to grade. (Susie, personal communication, June 12, 2017)

As a school, Mary felt that PDSA helped their planning process, particularly in setting up groups. She felt supported by her team as they discussed their data.

PDSA has slowly forced everyone to reflect school wide over time. We have something to reflect on whether in our class, while planning, while setting our groups . . . The kids reflect on their goals. Your grade level reflects on data. The school reflects on it. It forces that reflection to be used the way it was supposed to be. No one is isolated . . . we have grade level conversations where you can come back on your own with your data as a group and compare data. (Mary, personal communication, June 12, 2017)

The students have an end in mind, they know the learning targets, we have a class mission statement, students use Plan, Do, Study, Act- to give feedback and reflect on what is best for their learning based on current data. (Lisa, personal communication, June 12, 2017)

Cindy stated that a systems approach has changed how she approached teaching. She pointed out that teachers had knowledge of the learning requirements for other grade levels. According to Cindy, differentiation was possible in order to reach her students. In a traditional setting, she indicated that teachers did not differentiate their instruction once the doors were closed.

Bonnie and I are on a team . . . , we create differentiated groups. . . . You cannot just know your own grade level. You need to know, at least, the grade level above and below . . . But it is that, differentiating to know how to meet the needs of the kids, and then teach, teach, teach. I think of the old way of teaching you closed your door, and that was it. Whatever you did with your kids is what you did with your kids. Now, we are all together. So, I feel like the systems approach is definitely changed the way teaching is, and it is definitely different from the traditional way that we used to teach. (Cindy, personal communication, June 13, 2017)

**Student expectations.** Teachers discussed the expectations they have for their students.

There are expectations that you are going to come in here and work hard. There is the expectation that when you do not get it right it is okay. And the expectation of kindness. Those expectations have to be set very early on. When you do make a mistake, you apologize for it. Those expectations are set right away and also, I think as far as the teacher you need to be going back and digging deeper into the curriculum and knowing what your essential standards are. The PDSA helps you with that. It really helps you as a teacher. It let you know what worked and what didn't and sometimes the kids really surprise you. It is your guide to do what's best for kids. No matter what you are doing, the decisions you make should be your own. (Mary, personal communication, June 12, 2017)

Lisa stated that high expectations and rigor mattered in every task. The expectation of high standards communicated to her students that learning was important.

Rigor -- Every moment counts. Students need to be held to high expectations on

their learning level and should understand the purpose behind every task/ project/ lesson in order to give 100%. Differentiation is a must and a strong classroom community needs to be upheld so students share the understanding that every student is learning what they need. (Lisa, personal communication, June 12, 2017)

Cindy emphasized that her responsibility is to engage her students in demonstrating a year's growth. She also wants her students to develop a love of reading and writing.

Thanks for going first because that is the hardest part. We were all thinking-- okay, so engagement, especially the first six weeks, I'm teaching them about how to be engaged. I do not want idleness. They need to be working. Growth, to me is probably the biggest, where I take every kid wherever they are at and my job is to grow them at least a year. And we set goals on that, and they know what that is and they try to go past that. And then just love of reading. I want them to be able to walk into the library and know which authors they like, or which series they like, or what they like, like, "I like to write poetry," or, "I like to write realistic fiction." I like them to know what they are good at, what they like. (Cindy, personal communication, June 13, 2017)

Rose holds the position that both classroom management and classroom community create a supportive learning team with the students.

Classroom management-high/consistent expectations, fair to all, and I give my cell number to all families so we do communicate daily if needed. Strong classroom community amongst the students. We are a team, we help each other if needed so they can make their "grade level" age group, their generation as strong

as possible for when then are older. We all learn together, grow together, and have to respect each other. (Rose, personal communication, June 13, 2017)

**Building blocks.** Teachers discussed the building blocks of learning, how concepts were broken down into smaller and more manageable parts.

Kindergarten is a lot easier I was just thinking but in Kindergarten, they are needing so much we kind of started with something simple like getting ten sight words and then if they know ten, then we give them twenty because getting a good sight word foundation is important in developing those good reading skills and we found more sight word knowledge they have, usually, the higher their reading level is. We focused a lot on reading non-sight words and a number of sight words they knew. It helps them in class. (Beth, personal communication, June 13, 2017)

Well I have the little guys I mean, not as little as Penny's kids are, but my first and second graders talk about how we have a bag of strategies for reading. I do teach them how to use one at a time, and know which ones you need. (Cindy, personal communication, June 13, 2017)

According to Cindy, the most successful building block in reading was referencing specific evidence in the text by rereading a passage and breaking words apart to construct meaning.

I feel like, for me, a specific strategy that I use that I think is most successful in reading is going back and finding evidence for their answers in texts going back and rereading, breaking apart words, all these strategies, I think, are good ones. (Bonnie, personal communication, June 13, 2017)

**Student confidence.** Teachers discussed how they built student confidence.

They made it safe for students to take risks. “I think all they need to know is that it is okay to take risks and be wrong, I tell them it is okay to take the risk even if it is wrong and then celebrate it once you get it right” (Beth, personal communication, June 12, 2017). They gave students a voice. “A systems approach has led to student empowerment. When students feel they have a voice and ownership in the class, they strive to do their best” (Lisa, personal communication, June 12, 2017).

**Real-life scenarios.** Teachers related concepts to real-life, relatable scenarios for students to be able to make meaningful connections.

I also give examples of how differentiation applies in life (e.g., I have never been snow skiing, so I would need a lot more support and would be on the bunny slope while others would be independently successful on larger slopes.) (Lisa, personal communication, June 12, 2017)

Susie’s students made real-life connections based on prior knowledge of the content she taught which contributed to their learning. “My students make connections after learning something and then that is when they think, ‘oh that reminds me of the mishap’ and it is connected to the real-world situation of their own” (Susie, personal communication, June 12, 2017).

Cindy pointed out that she provided relevant examples on lessons that taught her students to make a real-life connection and learn from. She emphasized to her students that mistakes occur and valuable lessons can be drawn from them.

The lesson that came to mind for me was, my first graders, we were doing a lesson on lessons. What’s the lesson of the story? I know as a second-grade teacher that is always hard, even for second graders to do. So, I put a lot of thought into how I was going to teach it. And I said, “We all learn from our



mistakes.” I tried to connect it with them first of all, like there’s always a lesson in everything that we do, and I shared examples of things that I had done. And then I had a stack of our favorite books that we had been reading all year long with strong characters again. And we were like, “Okay. Well, what did Wemberly learn from this story?” and we would do a little quick picture Wemberly. And it was just so much easier for them that way to see it as, what was the mistake and what can I learn from that mistake? Or what was the character’s mistake, and what can I learn from that? And then from that day on until the very last day of school, they started noticing their own lessons that they were learning. Throughout the day, like, “Oh, where did I learn a lesson here? I’d better not eat my eraser or I am going to choke.” That sort of a thing. So, it became a real-life thing. And that never happened with my second graders, let me tell you, so. (Cindy, personal communication, June 13, 2017)

Teachers understood that teaching and learning in a systems approach focus on growth. Teachers did not work in isolation, they were a part of the decision making within their team. PDSA helped their planning process, particularly in setting up differentiating groups.

#### **Chapter 4 Summary**

The purpose of this study was to discover the perception of teachers using a systems approach in two rural schools in a district in North Carolina. This chapter contains the results of two focus group sessions in a narrative form. The results addressed the perception of teachers using a systems approach. Eleven elementary teachers participated in representing various grade levels at two separate schools. This qualitative study proposed to identify the elements of the CCI framework perceived to

have an impact on teaching effectiveness in two rural schools in North Carolina. The recording of the focus group sessions took place in a natural work setting, which helped the researcher listen and observe the participants interact as they answered the questions. The researcher focused on the total perceptions shared by the participants. The transcriptions were shared with the participants. Through the transcribed interviews, the researcher looked for themes that emerged from the replies collected and coded the responses.

Chapter 5 analyzes and further discusses the findings of this study regarding the experiences of teachers with the systems approach. The chapter includes implications for action, recommendations for further study, and the limitations and delimitations of the study.

## **Chapter 5: Discussion**

### **Introduction**

The purpose of this study was to examine the perception of teachers in two rural schools in North Carolina using the CCI framework. This chapter presents an analysis of the findings from the perception of 11 teachers using a systems approach to school improvement at two schools.

The following questions guided the study.

1. What are teachers' knowledge, understanding, and perceptions of teaching and learning?
2. What are teachers' knowledge, understanding, and perceptions about a systems approach to school improvement?
3. How does what teachers know and understand about teaching and learning fit with the meaning they have constructed regarding their knowledge, understanding, and perceptions about a systems approach to school improvement?

The findings in this study summarized the perception of teachers using CCI. Two focus groups provided their perception of teaching and learning using a systems approach to school improvement and discussed how they integrated teaching with a systems approach to school improvement. The ever-changing nature of reform initiatives impedes programs from taking root and remaining long term. For this reason, it is important for leaders to have a clear understanding of the depth of an existing culture and to communicate a clear vision, purpose, and the why for a new reform initiative to be embraced. The key point is teachers value being part of a school-wide decision-making process (Gruenert & Whitaker, 2015).

## **Discussion of Findings**

The findings in this qualitative study identified the elements of the CCI framework in two rural schools in North Carolina. This study showed how the application of continuous improvement in the classroom affects school culture, some aspects of TQM practices, and the use of PDSA through teacher perceptions using the CCI framework. The research design of the study was qualitative. The method used to collect the data was focus group interviews at two school sites. The findings are organized by each research question and answered the overarching purpose: themes that emerged under each research question as the teachers in the study described their knowledge, understanding, and perception of teaching and learning. The data produced four emerging themes: strategies, reflection, student ownership and growth focus. The first theme is a discussion of teacher knowledge and understanding of strategies as they applied to teaching and learning. The second theme is a discussion of teacher reflection on the perception of a systems approach to school improvement. The third theme is a discussion of student ownership. The fourth theme is a discussion of how teachers focused on growth and integrated teaching within a systems approach to school improvement.

## **Teacher Perceptions of Teaching and Learning**

The data presented reflect the perception of teachers in the study. The two schools demonstrated a positive culture which helped to create a productive educational environment where the curriculum aligned with learner needs. The data showed the development of a school culture that values learning and embraces continuous improvement. The frequency in the use of instructional strategies was prevalent in both groups. Teachers used the research-based strategies and activities in their classroom that

they found effective to teach their students. Those strategies were used to improve the learning process according to the teachers. The teachers engaged students in improving the classroom learning system by using their individual data which showed that teachers wanted students to apply the strategies to support and manage their learning. The participants shared and cited several teaching strategies they employed as best practices in their class for their students using the systems approach.

In a classroom learning system, students and teachers formed a partnership of what students should be able to do based on state standards for learning. Teachers used strategies to help guide student thinking through the learning process to get the broader concept of a given task and to make meaning of the content being taught. All participants to some degree supported the idea that strategies are methods used to provide and facilitate instruction. Multiple learning strategies were incorporated in learning cycles regardless of the subject or grade level taught. Teachers applied these strategies to build lessons with a continual plan in which the students and teachers had input to address learner needs. Teachers had students go back and check questions on assignments to verify if an answer they provided was reasonable according to what was being asked. This process forced students to ask themselves if their answers made sense and confirmed whether or not they understood the problem correctly. This strategy could be transferred to any class or subject or to problem solve by appropriately applying the go back and check strategy. Graphic organizers helped students with their thought process in reading and writing activities which also benefited those students who rushed through their work. Teachers built strategy banks as supplemental support for students to reference as a resource in order to address the needs of diverse learners. The strategy bank provided a continual support for scaffolded activities and prior knowledge and created a mental

model of any concept.

The data revealed successful learning environments, fundamental components with clear learning intentions, must contain modeling examples, guided instruction, collaborative learning, and independent learning. The schools' culture embraced these with the purpose of keeping student learning central while empowering teachers to continue to make professional decisions in the best interest of students. The collaborative effort discovered in this research between teachers and students produced learning and knowledge.

PLCs transform and shape school culture. The teachers at each school were committed as a PLC to ensure success by helping to shape the culture of their PLCs. PLCs focused on finding the strategies that work for all students. This was evident in the instructional strategies utilized by teachers in this study. The common norms for professionalism shared by staff set a purpose, vision, and commitment to sustaining this culture. There was a sense of collaborative work to achieve this goal by examining results of student learning. Reflecting on results was prevalent in both focus groups.

The findings showed that teachers discussed the application of modeling and think-aloud strategies to assist students. Indicators of progress monitoring were documented to differentiate and address various levels of interests and learning styles. According to teachers, these strategies helped personalize instruction. When teachers did not model a skill and assumed that their explanation or expectation of a task was evident, they experienced frustration when the students were not successful. Staff engaged in conversations about the quality of student work using data to help drive decisions for improvement. Teachers emphasized that both modeling and think aloud are vital for student success. While working in small groups or whole groups, teachers knew how to

intervene appropriately. When students expressed out loud their thinking while working on an activity, teachers were able to respond with the proper feedback and provide clear directions to students who were heading in the wrong direction on a task. Thinking aloud was beneficial in reading comprehension activities and problem solving in math and could be applied in any subject. Teachers were able to provide the proper support by listening to how the students processed information out loud or through observing those who struggled. Student learning was kept central in the study, while teachers continued to make professional decisions in the best interest of students.

Other research-based instructional strategies such as the GRR framework were incorporated in guided instruction. Teachers emphasized the importance for students to know which strategy to apply in readers' workshop in order for the teacher to transfer responsibility to the student to work independently. In this study, Cindy used the component of modeling from the GRR framework and said modeling in her mini-lessons helped guide her students to grasp the relevance of her lessons. Then they worked with partners in collaboration (Cindy, personal communication, June 13, 2017). She then let them work independently while pulling into small groups and coaching those who struggled with the concept. Frey and Fisher (2010) conducted an observation on scaffolding student understanding and modeling when learners continued to struggle. The pattern that emerged in their study as part of guided instruction was that teachers checked for understanding. When a lack of understanding from several questioning techniques failed, the teachers modeled their thinking so the students could have a frame of reference as to the thinking process they needed to use to solve a problem (Frey & Fisher, 2010). A correlation exists with what Cindy did with her struggling students and what Frey and Fisher (2010) observed on scaffolding in their study. The success of

GRR's component of modeling as a strategy as cited by teachers focused on the how; and in order to do the how, it needed to be shown to them.

The literature revealed that through modeling, teachers demonstrated an expected outcome for all activities. Once students learned through the teachers' modeling techniques, they became an asset in a cooperative team as they in turn modeled for their peers. The teachers in the study incorporated into the systems approach some components of the GRR and provided an overview of a shared responsibility that teachers and student have. Although Hoy's (2007) study did not make reference to the GRR, the teachers in that study believed that when the students have reached the point of teaching their peers, they have shown mastery (Hoy, 2007).

Teachers discussed the use of peer educating in a collaborative manner. The students in Anna's class led their weekly class meetings and reviewed the class promise, which not only established their ownership and accountability but also provided them with the opportunity to reflect upon their why for learning. (Anna, personal communication, June 12, 2017). The teachers incorporated the framework of GRR in their teaching; they guided the students along using modeling techniques in mini-lessons; the students practiced with their partners; and eventually, the students were released to work independently.

Teacher discussions revealed that the use of visual aids in the classroom was also helpful and impactful on student progress, particularly in kindergarten as a means to impact their formative progress. Graphic organizers helped students organize and display information in order to articulate to others what the information meant through accountable talk. Examples cited were lotus diagrams, fishbone diagrams, and plus deltas. Overall, teachers discussed the use of visual aids as impactful on lessons where



the students “got it” through the use of visual aids in their classroom. Teachers used manipulatives to reach students with special needs. A visual representation of a pneumonic chart helped students remember measurement conversion formulas.

The use of graphs, sticky notes, big bookmarks, graphic organizers, and T-charts helped organize student thinking. The visual representations helped students make the connection to the purpose and meaning of lessons which produced the comprehensible input needed by creating understanding and learning.

Teachers stressed partnership between students and between teachers created a community within the classroom and within the school. Teachers shared that communities developed within the classroom and with parents as a result of the partnership support in the classroom. When students were paired up, they analyzed their work, collaborated, and built community in the classroom; and the entire learning environment changed as a result. The atmosphere of a community bonded the teachers and students together. Students showed support for each other in a community atmosphere. The relationship between the students and teachers was integral to success. It mattered to the students that they felt loved and cared for by their teacher. The relationship was not limited to the classroom, it extended at recess and in the community. The community culture was evident in the way weekly meetings ran to focus on concerns and was also used to celebrate accomplishments. Students who struggled the most relied on the peer support, as that became the norm of the class culture.

The research showed that the classroom is a learning system in which content, instructional strategies, and assessments produce learning. Teachers identified areas within the content or learning process needing improvement. The research showed the teachers and the students frequently reviewed the learning goals and the needs of

individual students. They evaluated the instructional processes; they built trust and added value while creating a student-centered learning system. The research indicated that CCI provides strategies for learning expectations by engaging students as partners in their learning process and by providing an ongoing process for continuous improvement.

The teachers discussed learning from their students, and making adjustments in their lesson plans based on students' feedback on their progress. Teachers recognized that students learned differently and made plans based on their differentiated needs. Students worked towards reaching their goals and were involved in the process of discussing their focus or goals continuously. Based on teacher perceptions, they were transparent in expecting students to articulate how they were going to achieve their goals. Additionally, students shared with teachers which strategies worked best for them individually and as a class. Through student voices, there existed a sense of shared responsibility which benefited the overall classroom environment. Students were brutally honest with the teachers. Their feedback was accepted by teachers to better prepare their delivery of instruction.

### **Teacher Perceptions of Systems Approach to School Improvement**

Teachers felt that the most important aspect of the systems approach is the reflection piece. According to the teachers, reflecting not only helped them align their instructional strategies but also benefited the students in order to continuously make improvement. The measurement of student learning was also incorporated in teacher reflections in relation to the systems approach. The teachers took the success and failure of their students personally. As such, they continuously reflected on how and what they could do better to improve instruction. Students were involved in the why and what they were learning in order to apply the proper strategies and develop goals to be successful.

They were able to have cross grade level reflections as a PLC to make better decisions for students as they studied their class performance data. Teachers felt that it not only unified a grade level but the entire school. The shared values and commitment to shaping school culture were evident in the research through staff interactions in their PLCs.

Teachers perceived collaboration as crucial to be able to reflect and make appropriate decisions to improve the education process of students. As a result, collaboration created trust and satisfaction among staff. A collaborative culture and comprehensive school reform are perceived to add value to school culture. Shared values and commitment are perceived essential tools for strengthening school culture.

The teachers pointed out that the PDSA improvement cycles guided the systematic improvement for any functions in their classrooms. Teachers reflected on the Do part along with the students to decide what strategies would be used to achieve a goal. Additionally, the teachers along with the students reflected on the results in the Study activities to see how well the students learned the planned target. Students wanted to come to school, and their accomplishments were celebrated. Additionally, class meetings were used to listen and address student concerns. The Plus/Delta system was used as a reflective feedback tool used by teachers to further improve the delivery of the curriculum. Teachers believed in reflecting and used it to determine if something was or was not working in order to make the needed improvement.

Participants in the second focus group shared how the systems approach helped them and their students reflect on establishing a continual improving classroom learning system. A systems approach made them reflect on their instructional practices. The use of PDSA contributed to the favorable results of student growth in the learning cycles. Teachers believed that reflection produced an effective classroom management system.

The literature stated that within the framework of TQM, CCI evolved from the idea of collaboration between teachers and students in dialogue about improvement on daily classroom activities in all subjects. This process was done through the use of the PDSA cycle of improvement: continuous improvement, system theory, TQM, and CCI. Teachers articulated that students knew where they were, kept up with their growth, and knew what to do to meet their goals. Students tracked their individual data in a goal notebook, and the class was able to see their collective growth displayed on the wall. Bonnie and her students discussed the data, and the students reflected on ways to improve. Students had an understanding of their purpose for learning even in kindergarten. They had their own system at their developmental level to recognize if their goals were met. Penny did not find the goal notebook beneficial to her kindergarten students, because it was hard for them to manage. Teachers were on the same page to address the needs of diverse learners. Teachers believed because they reflected more, they met the needs of diverse learners better. They pointed out that the consistency of the use of a systems approach across the grade levels was beneficial because it unified everyone.

Penny concluded that a systems approach supported independent learning and made her a better teacher. Independence was essential to Penny. Cindy holds the position that a systems approach allowed for clear direction of what will be learned and engaged the students on how to get there. With the reflection component, students reflected on results. Students knew they could learn and were knowledgeable about what worked for them. Students engaged in their improvement process and the why of learning.

Teachers discussed how teaching is individualized to students, rather than

generalized. They stated that teaching students individually is a constantly changing process, because students do not all read at the same reading level. In order to meet their individual needs, students were divided into differentiating groups based on the results of their reading assessment. Teachers indicated that personalizing the students' academic goals gave them a chance to be successful. "You have to find some way to make those kids successful and that is where like, making academic goals are personal goals. It gives me a chance to make them successful. You are making them successful." (Beth, personal communication, June 12, 2017)

In the Hoy (2007) study, the use of grouping was heavily utilized in a cooperative learning classroom. The groups were heterogeneous, and activities varied for teams to complete an assignment. Students reported to their SFA groupings based on their academic needs and had to learn from each other. A teacher described that after his students received the knowledge from him, his students had roles in their peer tutor cooperative groups. Hoy pointed out that the student had dual roles, learning from the classroom teacher as learner and transferring that knowledge to their peers through cooperative learning.

The study showed student ownership as one of the most prominent themes. Teachers discussed students taking ownership of their work and progress. Students taking ownership was identified when teachers talked about how students were reflecting on their progress and their growth and how they were applying strategies to solve problems. Several participants shared their views on student ownership.

Lisa knew her lesson was effective because she engaged her students in understanding how to apply strategies to demonstrate their learning through their work when solving problems. Her students used the strategies that worked best for them to

address common denominators using an algorithm. Lisa indicated that a systems approach led her students to be empowered while engaging them in investing in their learning and holding each other accountable. Lisa pointed out that when goals were met, students showed pride in not only their work but also that of their classmates. Being proficient was not good enough; they pulled together so the whole group could grow. According to Lisa, the students who were below grade level were encouraged because they realized that showing growth was more important than a test score. Lisa admitted that a systems approach required her to give up some of her control to allow her students with a voice to express what was or was not working for them. Lisa stated that her students were empowered and were accountable as leaders for their learning. Her students understood the ramification their overall performance had at the school. Through her students' daily reflections and feedback, her lessons became more efficient and purposeful.

She concluded on a personal note that a systems approach makes sense as she reflected back when she was a student who needed a purpose to grow. She recalled feeling uncomfortable in a high school class simply because the teacher had her sit somewhere that impeded her learning. In her classroom, she steered away from aspects she recalled made her uncomfortable to provide a more enjoyable experience for her students. Lisa (personal communication, June 12, 2017) said, "When students have a voice and are tracking, reflecting and celebrating growth, they are happy about coming to school. Instead of creating a test-taker for today, this creates successful leaders for tomorrow."

Student ownership included setting personal goals by recognizing what was getting in the way of learning. Setting clear directions and expectations for work

completion and having a system for turning in work for the overall class routine helped students in their overall organization. Students could identify their performance level in mClass and articulated where they would like to be or should be. Students were empowered to track their progress and growth.

Teachers saw students document their data in a leadership notebook. The data provided students with documentation as a starting point for their results to continue a trend of growth or lack of growth in a graph format. The teachers indicated that the plus delta took a long time for the students. However, the students wrote a plan in their data notebook for improvement for the next learning cycle. Students were then able to identify the specific strategy they would or would not use.

Mary stated that she hoped that through the various strategies she was teaching her students, they would get to the same end by truly finding and choosing the strategies that worked best for them for a given task by establishing ownership. Mary felt that it was important for her to have her students understand which strategy to use for an assessment. When the students worked with their partners, they distinguished the strategy that worked best to solve a problem on a test.

Mary indicated that student ownership included the students setting their personal goals by recognizing what was getting in the way of their learning. She felt that setting clear directions and expectations for work completions, having a system for turning in work for the overall class routine, and knowing how to use graphic organizers helped students know where they were. Her students knew what made a good reader. Her students knew what it meant to read with accuracy. Her students set their goals to get there.

In the study, teachers saw students molding themselves by taking ownership of

their learning. Students could recognize what they were capable of achieving by using various strategies. Teachers shared that students began to recognize in classroom discussions that certain strategies worked for them and not for everyone else.

Susie knew her students could learn and always reflected on what worked or did not work. She resented the idea that teachers “knew everything,” while the students sat and received information and memorized the content. Susie concluded by saying that her students were empowered to track their progress and growth. “They are taking their learning into their own hands. They get to see what they can do . . . It empowers the students more. They are able to track their own progress and see their own growth” (Susie, personal communication, June 12, 2017). Teachers indicated that by having their students see demonstrations and examples placed on anchor charts, students and their partners began modeling for those who struggled. In their view, that was ownership.

Teachers discussed how they built student confidence. “A systems approach has led to student empowerment and gave them a voice. With a voice and ownership in the class they strive to do their best” (Lisa, personal communication, June 12, 2017). Teachers related concepts to real-life, relatable scenarios for students to be able to make meaningful connections.

In a teaching system, the teachers do all the work. In a learning system, students are engaged in evaluating their learning. To keep students engaged, teachers used a continuous learning method, the PDSA. Students explore and then give feedback to their classroom learning.

### **Integrating Teaching with a Systems Approach to School Improvement**

In this study, teachers discussed student growth rather than student achievement and expressed that a systems approach focused on learning and growth which allowed



special needs students to grow at their level. Students are encouraged to focus on their private goals in their personal notebook. A classroom learning system encourages students to take ownership for their personal learning. Teachers plan instruction to meet specific needs of students and to prepare them for current trends to prevent obstacles in the learning process. Individual action plans are valuable tools used by students to continue the accountability of high expectations and performance and to make any necessary adjustment to meet the goals. This is also an opportunity for students to reflect on the strategies that are really making an impact on their learning. The teaching and learning process are reflected upon as a means to differentiate instruction for students and to facilitate mastery of objectives in a learning cycle. Using data notebooks, teachers and students know how to keep up with their individual progress which equips them in meeting their goals. Teachers discussed how they and their students were a part of the bigger picture of the school. “Nobody was an island.” Teachers discussed the building blocks of learning, how concepts were broken down into smaller and more manageable parts.

CCI, according to the teachers, created accountability for the students and teachers. The teachers along with their students developed mission statements and discussed their teaching goals by including the students in creating a class mission statement. The mission statement was reviewed weekly to ensure that the class was on target towards meeting their personal goals with the end in mind.

CCI is perceived to promote a positive student-teacher rapport in which the overall development of the child is a primary focus. To ensure success for students, CCI incorporates instruction and interventions in the classroom. CCI empowers students to take ownership and have a voice in their learning. CCI helps teachers enhance their

instructional deliveries through reflective practice. The instructional design in CCI is student centered and considers instruction from the perspective of the learner. Once an action plan is activated, the final step of continuous improvement is to repeat the process again and again until the initially identified process that needed improvement is no longer a concern. As a result, when using the curricula, teachers choose a standard on which to concentrate in a learning cycle.

### **Implications for Practice**

Resulting from an in-depth analysis of the data, the researcher concluded the following as necessary action steps.

The continual professional development of teachers in the systems approach is crucial to the success and sustainability of CCI. The complexity of continuous improvement emphasizes that we must understand the key characteristics at the heart of educational reform to maintain sustainability. A starting point that is both theoretical and practical is to build capacity by developing a continual support system at each school to protect the integrity of the framework and to provide a continuum when a staff member leaves.

Within the organization, the ability of staff to train one another at all levels would help sustain the professional development culture in the future. Additionally, if a strategy for continuing CCI professional development is written in a school improvement plan at the school level, school districts would benefit because it would support the theory behind ESSA which emphasized the ongoing and sustained professional development of teachers for improvement and to ensure success for students and schools (Darling-Hammond et al., 2016).

An education reform for teachers should include knowledge of teaching and

sustained professional development so that continuous improvement is a part of the school's culture and the framework for operation. Cultural change impacts continuous improvement through professional development, establishing capacity among staff, and ensuring sustainability of the reform initiative.

Teachers value being part of a school-wide decision-making process. Leaders can make a difference in the success of and transitions to new programs. Teachers do not own educational processes; however, seeking their expertise is beneficial in school reform efforts. Teachers can decide what instructional modes are needed and useful for their students. When teachers are not part of a decision-making process regarding reform initiatives, the development of and buy-in for the program may be impeded. As such, school improvement initiatives appear, but often their implementation efforts are poorly managed and result in their failure. Therefore, the adoption and rollout of a program are not enough to produce continuous improvement. A structure for monitoring implementation to avoid compromising the fidelity of implementation of a systems approach should be developed. When teachers attend workshops, their understandings vary. Teachers will select an aspect of the workshop they understand or would prefer to implement, and this creates a disconnect in the system. In order to secure a systemic implementation, leadership must provide a monitoring and accountability system using a technical support system to engage all staff equitably in the implementation process. The primary purpose of developing a team structure for monitoring implementation is to protect the learning system which directly impacts student growth. This communicates the system is here to stay and is not optional. If there is no capacity to support the system over time, it will not be sustained.

This study and the literature review both support modeling as a strategy to

facilitate the learning process of students. Therefore, leadership at the district and school levels should model the use of continuous improvement using PDSA to develop a managerial system that mirrors what they expect teachers to do in the classroom with students. The PDSA cycle can be used in collecting and making use of disaggregated data to monitor improvement for any assessment; use PDSA in the strategic plan and operational plans to measure improvement trends of the entire school district. The school improvement plan is the governing document that contains the goals of the school and mirrors the district's strategic plan. At the school level, the school improvement plan contains the strategies that will direct teacher professional development plans. It connects to everything that is relevant to a school and its continual improvement. Using the PDSA would provide systems alignment with a common understanding of purpose, vision, mission, and goals. Modeling the aspects of PDSA at the district level would signal the commitment to the school system that all are in this together. This would create alignment in how results in support of continuous improvement are processed in the entire system.

The integration of coaching and feedback promote partnership in order to support principals and teachers. Investing in the development of building leaders and teachers impacts a systems approach to school improvement. The partnership builds the capacity for the system to be aligned at all levels. The coaching and feedback are essential to support the professional learning of principals and teachers. If teachers are resistant, a no excuse environment is established through support and coaching. There are no excuses for teacher success with ongoing training.

### **Recommendations for Further Research**

A follow-up study on a systems approach in higher education would be beneficial

to new teachers entering the profession. New teachers are receptive to change. They do not have prior teaching experience in education. Incorporating a systems approach framework for higher education implies that teachers are completing an educational program and graduating with the foundation for implementing a systems approach in schools. School districts would benefit because it would support the theory behind ESSA which emphasized the ongoing and sustained professional development of teachers for improvement and to ensure success for students and schools (Darling-Hammond et al., 2016).

A quantitative study on student achievement of a systems approach would benefit educators in determining if the systems approach is responsible for their achievement. The current study indicated that students used PDSA to monitor their growth. The current study showed evidence that students recorded their growth using PDSA learning cycles. School districts continue to seek reform initiatives to meet the requirements of ESSA. Continuous improvement as a reform effort is perceived to address the accountability needs of ESSA (Schumacher, 2011). Therefore, a quantitative study of the systems approach is warranted to measure its impact on student achievement.

A study is warranted on the experience of district-level leaders with the challenges they face in implementing a systemic reform initiative. This study was limited to the perception of teachers at two schools. A limitation, affecting the success or failure of CCI, is the accessibility of monetary resources needed to support continuous training for the development of teachers in the framework. Conducting a program evaluation on the effectiveness of the systems approach over time at the elementary, middle, and high school level following the exit of the school principal would provide insight to other districts for what to avoid. Leaders are responsible for sustaining any improvement

effort, especially when it involves change. Further research can provide insight into the effectiveness of a systems approach at each school level within a district following the exit of the principal.

### **Limitations**

The teachers whose schools chose to pilot the systems approach to CCI incorporated the use of PDSA within their curriculum. Where all selected participants received individual training and support by one service provider, each school internally had different levels of implementing the framework to meet the needs of their improvement goals. One school incorporated some aspects of the Gradual Release of Responsibilities within CCI. Of the 11 participants, the researcher expected them to have received the same quality of training in the use of the framework. There was some difference in approach noted in the use of the systems approach. It was understood that each teacher in the study might have had different levels of understanding or interpretations in the utilization of each component of PDSA. Some may or may not use PDSA with fidelity for that reason.

The selection of the participants by the principal was a limitation. The participants may have felt forced to participate.

There may have been occasions where teachers did not comfortably disclose their authentic experiences using the systems approach in an open forum. Some teachers were more open than others in expressing their experiences.

A final limitation, affecting the success or failure of CCI, is the accessibility of monetary resources needed to support continuous training for the development of teachers in the framework.

**Delimitations**

All schools in the district were presented with the framework. While some schools did not want to begin a new initiative, the study was limited to two schools and the views and perceptions of 11 preselected participants. Due to time constraints and limited access to study sites, multiple focus group sessions were not feasible for all teachers using the PDSA cycle. The focus of the study was to examine the perception of teachers within selected schools of a predetermined county in North Carolina currently using the implemented PDSA learning cycles. The selected schools participating integrated into one framework where PDSA, systems thinking theory, and TQM fall under the single framework of CCI at each of the two participating schools.

Student achievement within the use of PDSA was not a focus. The initiative has not been used long enough to measure the impact of student achievement.

**Summary of Research**

This study provided an understanding of teacher perceptions using a systems approach to school improvement. CCI encouraged teachers and students as partners to use PDSA in the classroom to improve learning. Students took ownership of learning by engaging in tracking target data and setting goals for improvement. If students were not improving, they reflected on how to fix it. At the PLC level, teachers collaborated, shared results, and identified best practices to help improve learning. CCI integrated quality tools into a systems approach to improve learning results. In the PDSA, teachers and students monitored progress towards class goals and individual goals. Teachers were able to differentiate based on the data they had on their students. CCI fostered a learning environment where teachers developed an understanding of their curriculum. There was collaboration and a sense of community within teams. The teachers relied on each

other's strength in a subject area to ensure all students were at or above grade level.

Teachers were on the same page to address the needs of diverse learners.

Teachers believed they met the needs of diverse learners better. They pointed out that the consistency of the use of a systems approach across the grade levels was beneficial because it unified everyone. The teachers developed systems to monitor progress and engage students in evaluating and improving learning. Teachers took responsibility for ensuring that their top priority was the students. The mission statement, referred to as the promise statement, set a focus on goals for the class and analyzed if those goals were met. Students were given a voice on how they learned. They managed and developed some control of their environment. Teachers provided them with systems for everything that was done in the classroom. The teachers provided the content for learning. The students were in charge of their data and knew what the data meant; they knew how to help each other as a group and individually. Their data were recorded in their data notebook. Parents were aware. The community was aware. Everything was transparent across the board.

The expectations of accountability in public education continue to increase. ESSA contains standards for high quality which include the laws that govern what is done in schools to increase student achievement and ensure equal opportunities for students to be college and career ready. ESSA emphasized the ongoing and sustained professional development of teachers for improvement to ensure success for students and schools (Darling-Hammond et al., 2016).

As a result, school districts continue to seek reform initiatives to meet the requirements of ESSA. Continuous improvement as a reform effort is perceived to address the accountability needs of ESSA (Schumacher, 2011). TQM improves student



learning so that when they graduate from high school, their foundational academic skills in content are solid. TQM adds value to education through systemic improvements (Siegel & Byrne, 2014).

The improvement cycle of a school involves support, resources, and self-evaluation for accountability. Through a system of responsibility, deep learning at the school level involves shared efforts towards the development of a collaborative culture.

Ultimately, results of student learning drive schools to improve and achieve excellence. As a result, to continuous improvement, research-based instructional practices are identified to best meet the needs of students. To get the results and achieve excellence, continuous school improvement systems require collaborative work that is ongoing and incorporates a self-renewing process. Those characteristics focus and define continuous improvement as having an overall focus on excellence (Lezotte & McKee, 2002).

A PDSA cycle can be used to improve any aspect of an organization. In a PDSA learning cycle, the teacher and students engage in discussions about the strategies that will best help the class learn a specific skill. The perception some teachers had prior to the implementation of a systems approach was increasing their workload and duplicating what some felt they were already doing. The district studied in this research provided training to all teachers and instructional coaches with an outside consultant. In a previous study, Hoy (2007) indicated that not all teachers felt frustration with the systems approach. This study corroborated that the framework helped some teacher plan and teach and allowed students to learn. The overall PDSA process was seen as a beneficial teaching tool. Teachers believed that the benefit of the data presented in the PDSA assisted them in making adjustments in their instructional delivery.

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## Appendix A

### Statement of Informed Consent



**Statement of Informed Consent****Researcher:**

Pascale Glenn  
Doctoral Student  
Gardner-Webb University  
Department of Educational Leadership

**Study's Description**

I am interested in the experiences of teachers using and implementing a systems approach (CCI) in their classroom. I will conduct focus group interviews at three separate schools. Six teachers will be selected to be interviewed from each school. The intent of each focus group is to gather perceptions regarding teachers' experience in implementing a systems approach to continuous improvement. The length of the interviews will last approximately 1 hour or less. The questions asked will pertain to their knowledge, understanding, and perception of teaching and learning. And about a systems approach to school improvement, and how their knowledge about teaching fit with the meaning that they constructed about a systems approach to school improvement. The session will be tape recorded to ensure the accuracy of responses. You will see me take notes as you speak as well. As a participant, you will be provided a copy of the questions before the interview sessions. The interviews will be coded for themes that may emerge from the responses in the data. Identifying information will not appear anywhere on transcripts or notes taken by the researcher. As a participant, you will be provided with a copy of the transcripts to ensure the accuracy of the data being reported. The resulting data will be secured in a locked cabinet for at least ten years and will be discarded at such time.

**Confidentiality**

Your name will not be attached to your interview and any information obtained through the interview will be kept confidential. Your name and any other identifiers will be stored in a locked file that is only accessible to me. The data will be collected through a focus group interview, and therefore, confidentiality is assured. You will have the opportunity to review your portion of the recorded session if you so choose for accuracy.

**Benefits**

The results of this study may benefit educational professionals who are interested in Continuous Classroom Improvement.

**Risks**

There are no known risks to you during this study.

**Voluntary consent:**

Your signature on this consent form indicates that you fully understand the study, what is being asked of you in this study and that you are signing this voluntarily. You may choose to participate or not, without penalty. Once you agree to participate in the focus group, I will be in contact with you for a location and time where the focus group will meet. Any questions- -about this study can be directed to Pascale Glenn, the researcher at [REDACTED]. If you have any questions about your rights as a research subject, please contact the office of Dean of School of Education at 704-406-4402.

Name: \_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Email: \_\_\_\_\_

A copy of this form will be given to you for your records.

## Appendix B

### Permission and Validation of Questions by Hoy

**RE: Inquiry regarding questions from your 2007 study follow up****From:** Linda Hoy**To:** javalme1**Date:** Tue, May 9, 2017 6:45 pm

Pascale,

I did not compare specifically with my original study; however, they look correct.

Linda

Appendix C  
Shipley Validates Questions

**RE: Pascale Glenn is requesting questions to be validated for focus groups**

**From:** Jim Shipley

**To:** javalme1

**Cc:** Gina Hare

**Date:** Mon, May 8, 2017 10:20 am

Pascal my suggestions/edits are below IN CAPS

Good luck with your focus groups.

Jim Shipley

**Questioning route for focus groups needing validation**

1. Part A) Think about a lesson that went well, where you felt that your students “got it” and you felt both you and the students were satisfied? Describe that lesson. Part B) Think about a lesson where you needed to adapt your purpose to address the needs of your students. How **WHAT WERE SOME KEY INDICATORS THAT LED YOU TO BELIEVE** the original lesson needed to be adopted and what did you do differently to meet their needs?
2. What are the three most important components for success in your classroom?
3. When you think of the word “strategy,” what comes to mind? What are three teaching and learning strategies that have been successful for you and your students?
4. Think about the word “teaching” and the word “learning.” Describe each word and how they are similar and how they are different.
5. What comes to mind when you think about a systems approach to school improvement? **WHAT IS DIFFERENT FROM A MORE TRADITIONAL APPROACH?**
6. Think about your classroom and the systems approach to school improvement model that you are implementing. Describe how you are using this model.
7. How has a systems approach to school improvement changed **YOUR PREVIOUS APPROACH** in your classroom?

8. Think about the various needs that your students have. How is the systems approach model helping you to meet those needs? In what ways, if any, is the systems approach model keeping you from meeting those needs?
9. What are the **SPECIFIC** benefits **TO STUDENTS** of using a systems approach to school improvement?
10. What are the three most important aspects of the systems approach to school improvement model?
11. **HOW** does a systems approach to school improvement fit with your experiences, understanding, and beliefs about teaching and learning?

Sincerely,  
Pascale Glenn

## Appendix D

Teacher Interview Questions (Adapted and modified from Hoy, 2007)



The questioning route will include the following questions for the focus session.

1. Part A) Think about a lesson that went well, where you felt that your students “got it” and you felt both you and the students were satisfied? Describe that lesson. Part B) Think about a lesson where you needed to adapt your purpose to address the needs of your students. How what were some key indicators that led you to believe the original lesson needed to be adopted and what did you do differently to meet their needs?
2. What are the three most important components for success in your classroom?
3. When you think of the word “strategy,” what comes to mind? What are three teaching and learning strategies that have been successful for you and your students?
4. Think about the word “teaching” and the word “learning.” Describe each word and how they are similar and how they are different.
5. What comes to mind when you think about a systems approach to school improvement? What is different from a more traditional approach?
6. Think about your classroom and the systems approach to school improvement model that you are implementing. Describe how you are using this model.
7. How has a systems approach to school improvement changed your previous approach in your classroom?
8. Think about the various needs that your students have. How is the systems approach model helping you to meet those needs? In what ways, if any, is the systems approach model keeping you from meeting those needs?
9. What are the specific benefits to students of using a systems approach to school improvement?

10. What are the three most important aspects of the systems approach to school improvement model?
11. How does a systems approach to school improvement fit with your experiences, understanding, and beliefs about teaching and learning?